ES320/ES330/WS320/GS320

IP Phone

User Manual

(firmware:V2.2.6.2-2733)

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1.Getting Started

About

ES320P/ES330 is a small-screen-based IP phone in Sayhi IP phone series, it has fashion and technological appearance, excellent voice quality, and powerful features, and it is a new generation of intelligent phones to replace of the traditional desktop office terminals, It accomplished the powerful telephony features by cooperating with the communications platform,. such as the call transfer, hotline, three-party conference calling, speed dial, voice mail, Do Not Disturb, etc.

Illustrate

Firstly, before you use this user manual ,please check the below illustrate carefully. This user manual is common use in ES330、WS320、DS320、GS320.please check the differwnt.

ES330 is different from ES320 :ES330 support expansion ,but ES320 don't support it. It can up to 6 EMS32 programmable key modules

WS 320 is wifi phone ,it has wifi module, it is the different from ES320,but the function is the same . WS320 IP Phone support 2 accounts registering and 2 calls management.

DS320 series is Dual Model IP phone , and support PSTN and VOIP , DS3X2 P IP Phone support 2 accounts registering and 2 calls management.

GS320 has a gbps network port. It is a supper rate phone .

Feature Highlights:

- 128*64 Pixel LCD with Support Chinese display
- HD Voice: HD Codec
- 2 VoIP accounts
- Enterprise Phone Book
- 12 programmable hard keys and support BLF
- Support Plug and Play
- Support PoE and AC power adapter

Technical Features

Item	ES320/ES330/WS320/DS3X2/GS320
Screen	Grayscale LCD with background light

	128*64 pixel
Line	2
Function Keys	4 Soft keys,2 Line keys(dual-color LED) 6 Navigation keys(arrow button, OK button, C button) Volume adjust, Hands-free, Mute, Headset, Message, Menu, Directory, Service, Hold, Redial, Conference, Transfer
VoIP Protocol	SIP 2.0
Network Protocol	HTTP, BOOTP, TFTP, *IEEE 802.1Q, *IEEE 802.1X
Codec	G.723.1, G.729 A, G.711 A/U, G.722
QoS	TOS, Jiffer Buffer, VAD, CNG, G.168 (32ms)
Network	2*RJ45 10/100M Ethernet interfaces（LAN/PC) IP Assignment: Static IP or DHCP VPN(L2TP) DNS Clients (Primary and Secondary)
Conversation Mode	Handset, Headset or Hand-free Mode, Call center headset and 3.5mm headset supported 9-levels volume adjustment
Call Processing	Call Sharing/Bridged Lines Line Status Indicator(dual color LED) Multi Account Call Waiting, Call Queuing, Line Switching Call Forward, Call Transfer, Call Holding, Call Pickup, Callback One Key Dial, Redial Phone directory speed dial, Call record direct dial 3-way conference DnD Voice mail, Voice Prompt, Voice Message BLF
Expansion Interface	EXT: ESM32 programmable key module SOR: FXS, FXO, Record USB
Security	User Authentication for configuration pages Signaling encryption Media encryption
Application	*Public phone directory Private phone directory *PnP (Plug & Play)
Power Supply	Power adapter: AC 100-240V input and DC 12V/1A output PoE (IEEE 802.af)

Specification	Storage Temperature: 0℃-60℃ Operating Humidity: 10%-90% Size 254mm*205mm*87mm

2.Connecting Your Phone

Your system administrator will likely connect your new SayHi ES320/ES330/WS320/DS3X2/GS320 IP Phone to the corporate IP telephony network. If that is not the case, refer to the graphic and table below to connect your phone.

1) Open the box ES320/ES330/WS320/DS3X2/GS320 IP Phone; carefully check the packing list, Packing List as follows:

Item	**Counts**
IP Phone	1
Handset	1
Handset Cord	1
Power adapter	1
RJ45 cable	1
CD	1
Quick Installation	1
Quick User Guide	1
Product certification	1

2) As shown in figure 2.1 and figure 2.2, Please plug Handset Cord into RJ11 interface(IP Phone and Handset), RJ45 cable into the LAN interface；IP Phone will automatically start if IP Phone with POE function.

3) The phone must work together with power adapter without POE support.

4) Connect your computer to PC interface of the phone with cable.

* More detailed description please refers to the *3.Phone overview-Understanding phone buttons and hardware*.

Figure 2.1 Interfaces of SayHi ES320/ES330/WS320/DS3X2/GS320

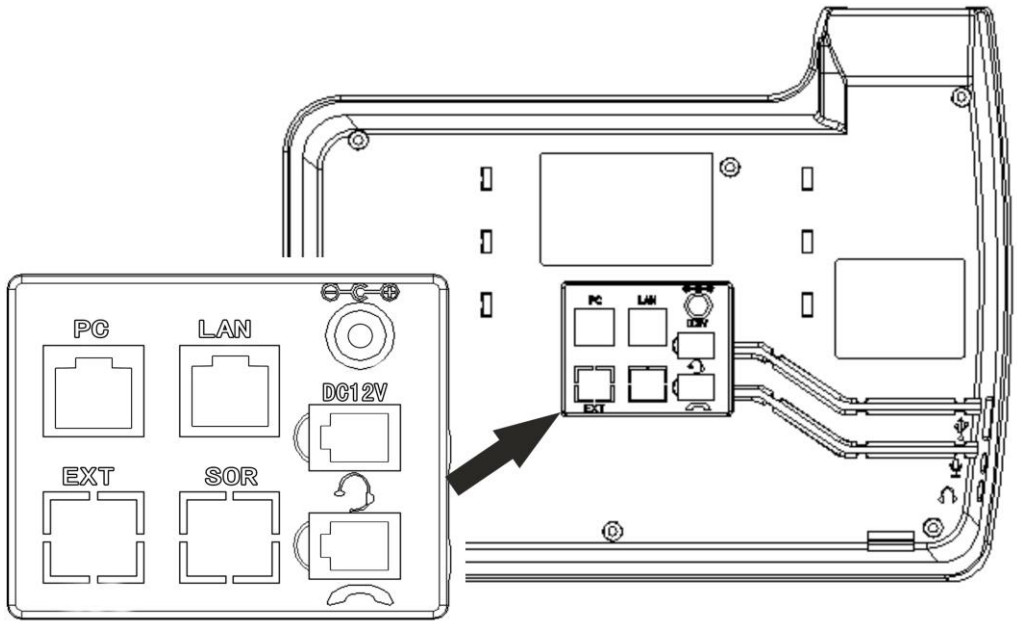
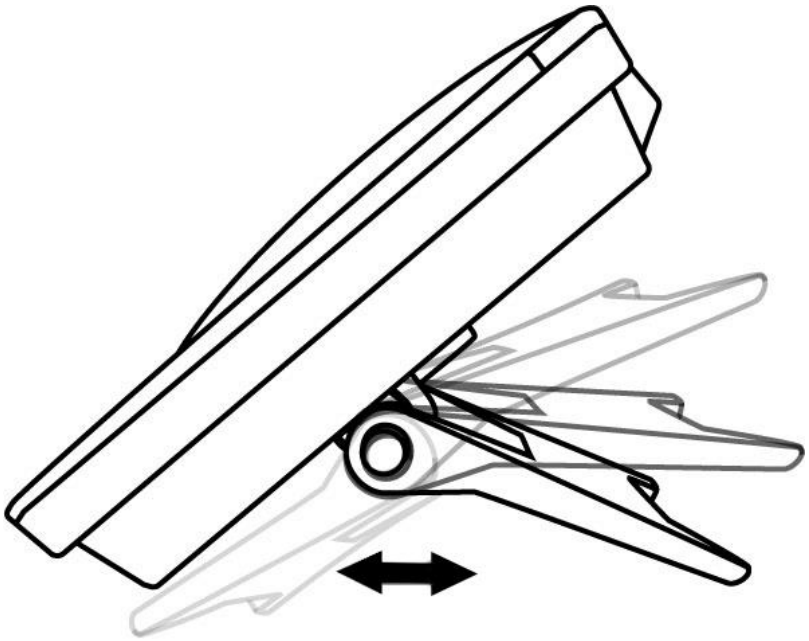


Figure 2.2 Footstand of ES320/ES330/WS320/DS3X2/GS320



3.Phone overview

Understanding Buttons and Hardware

From figure 3.1 to figure 3.2, you can understand buttons and hardware about SayHi ES320/ES330/WS320/DS3X2/GS320

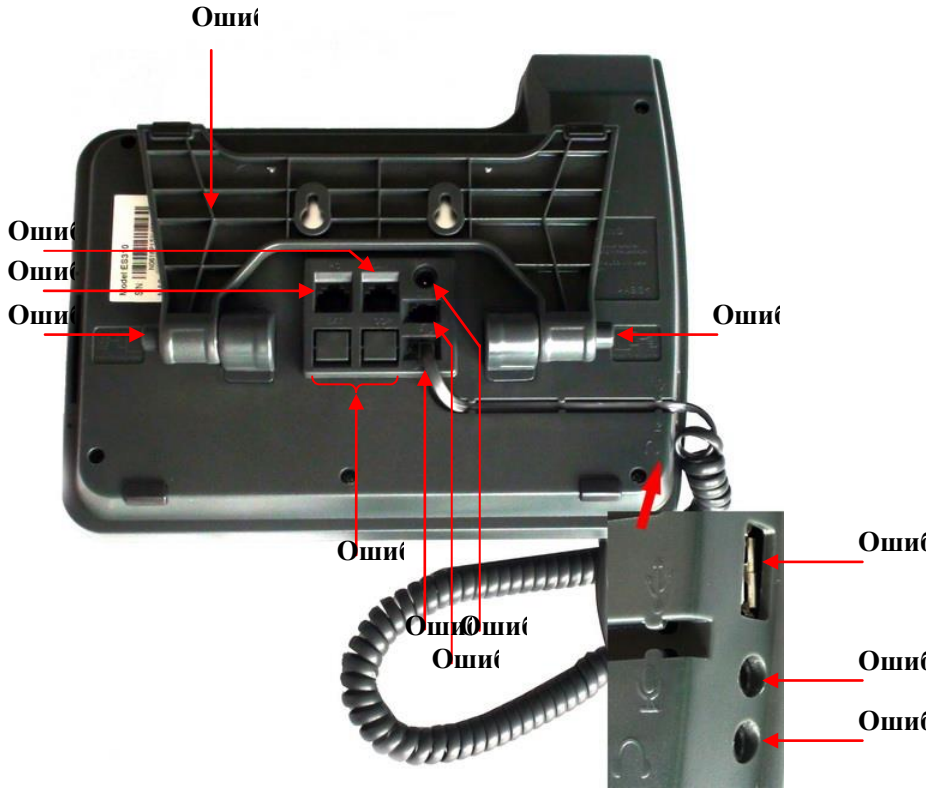
Figure 3.1 Buttons and Hardware of SayHi ES320/ES330/WS320/DS3X2/GS320

Num	Buttons	Description
1		Headset button: Toggles the headset on or off. Red means the feature is enabled.
2		Mute button: Toggles the Mute feature on or off. Red means the feature is enabled.

3		Messages button: Typically auto-dials your voice message service. Red means have unread voice mail.
4	SERVICE	Server button: Open or Close the Services menu.
5	DIRECTORIES	Directory button: Use it to access call logs and corporate directories.
6	MENU	Menu button: Allows you to scroll through menus.
7		Volume button: Controls the volume and other settings.
8	CONFERENCE	Conference button: Connect calling / called party to the conference
9	REDIAL	Redial button: To Redial the last number.
10	TRANSFER	Transfer button: Transfer redirects a connected.
11	HOLD	Hold button: Put a call on hold
12	0-9, *, #	Basic Call Handling: press "#" send out a call(default)
13	Speaker button	Speaker button: Toggles the speakerphone on or off. Red, steady: Pick up and enter normal call.
14	Softkey	Each displays a softkey function, To activate a softkey, press the softkey button.
15	Line buttons	Select the phone line（Call or Answer）； Different colors for different status: 1) Red, flashing: There is an incoming call. 2) Red, steady: Pick up and enter normal call. 3) Yellow-green, flashing: Holding call. 4) Yellow-green, steady: Active call.

16	Programmable Buttons	Hotline number can be used to bind in order to achieve speed dial；Turn on BLF: 1) Red, steady: Remote line is busying. 2) Yellow-green, steady: Remote line is idle. The order of the hot keys: On the left top to bottom: 1, 2, 3, 4, 5, 6； On the right top to bottom: 7, 8, 9, 10, 11, 12;
17	C	Back button: Return to the standby interface;
18	Navigation button	"Up": Adjust ring volume, operate with the "down" button "Down": Open 'Missed Calls" list: "Left": Open "Received Calls" list; "Right": Open "Dialed Numbers" list
19	OK	OK button: To confirm the action;
20	Hands-free speakerphone	Hands-free voice of the output
21	LCD screen	160*32 pixels, grayscale LCD with background light.
22	Light strip	Red flashing: There are incoming call； Red, steady: Missed Calls, or phone busy;
23	Hands-free microphone	Sounds input when hands-free

Figure 3.2 Interfaces of SayHi ES320/ES330/WS320/DS3X2/GS320



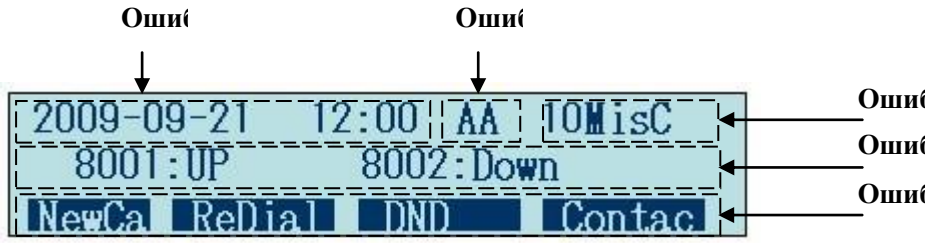
Num	Hardware	functions
1	Footstand	Hold up phone
2	Footstand button	Press buttons at the same time to adjust the angle
3	Reserved for USB port	Enhanced scalability
4	Microphone port	Connect the Microphone
5	Headphone port	Connect the Headphone
6	Power port	12VDC
7	Headset port	Support RJ11 interface connection
8	Handset port	Connect the Handset
9	Reserved port	Enhanced scalability: 1) EXT: ESM interface; 2) SOR: S-FXS O-FXO R-record
10	LAN port	Connect to a LAN interconnecting device

11	PC port	Connect to a local PC

Understanding Phone Screen Features

This is what your main phone screen might look like:

Figure 3.3 LCD of SayHi ES320/ES330



Num	Screen	Functions
1	Time and Date	Show current time and date.
2	Auto-answer	Enabled Auto-answer, displays "AA"
3	Missed calls	Show the number of missed calls.
4	Line status	Show the phone line status: 1) LAN: Disconnect : Disconnect into network. 2) Peer-to-Peer : Only Peer-to-Peer call. 3) 8001:Down : Network connected normal, but the line is not successfully registered. 4) 8001:UP : Network is OK and the line is available. 5) 8001:DND : Line is turned on DND.
5	Softkey labels	Each displays a softkey function (displayed on your phone screen), and the function is different when menu changes.

4.Basic Call Handling

You can perform basic call-handling tasks using a range of features and services. Feature availability can vary; see your system administrator for more information.

Note: The bold type of the following text and following a "button" in table signifies the phone's button (for example, **OK** button), and the NewCa signifies softkey.

Placing a Call

Here are some easy ways to place a call on SayHi ES320 IP Phone:

<table>
<tr><th>If you want to...</th><th colspan="2">Then...</th></tr>
<tr><td>Place a call using the handset</td><td>Pick up the handset</td><td rowspan="3">--1) You can hear the dial tone;
--2) The first line light is ;
--3) Enter a number;
--4) Press '#' button（default) ,
-or press Send;
-or wait 5s (default), then it send the number automatically.</td></tr>
<tr><td>Place a call using a speakerphone</td><td>Press Speaker,
or Programmable buttons
or NewCa</td></tr>
<tr><td>Place a call using a headset</td><td>Put on your headset and active Headset button, and then do as using speakerphone</td></tr>
<tr><td>Redial</td><td colspan="2">--Press REDIAL button to dial the last number
-or press Navigation button-Right > "Dialed number", select a number, and press Dial or OK button.</td></tr>
</table>

Dial from a call log	--1) Press **MENU** or **OK** button **>** "Call history", you can select "Missed calls", "Received calls" and "Dialed numbers", - or press **Navigation button** (in Standby interface) > select "Missed calls" (**down**), "Received calls" (**left**) and "Dialed numbers" (**right**))； --2) Then press **OK** button or Dial.
Place a call while Another call is active	--1) Press **Hold** button or Hold; --2) Enter a number; --3) Press '**#**' button (default) ; -or press Send to send the number.

Tips

• You can dial on-hook, without a dial tone (pre-dial). To pre-dial, enter a number, and then go off-hook by lifting the handset or pressing Send, **Headset** or **Speaker** button.

• If you make a mistake while dialing, press **C** button to erase digits.

Answering a Call

You can answer a call by simply lifting the handset, or you can use other options if they are available on SayHi ES320.

If you want to...	**Then...**	
Answer with a handset	--1) Your phone ring; --2) **Line** button of the ringing line is Red and flashing, Light strip is Red and flashing；	--Pick up the handset
Answer with the speakerphone (Non-headset mode)		--Press **Speaker** button -or press the flashing **Line** button, -or press Ans
Answer with the a headset		--Put on headset, press **Headset** button so that the status light is Red, and then do as using speakerphone

Switch from a connected Call to answer a ringing call	--1) Another **Line** button is Red and flashing, Light strip is Red and flashing; --2) Press the flashing **Line** button to answer (at this time, the original call will be hold.)
Auto-answer	--1) Press **MENU** or **OK** button > "Function setting" > "Auto answer"; --2) Select "Enable"; --3) Your phone answers incoming calls automatically after a few rings.

Ending a Call

To end a call, hang up. Here are some more details.

If you want to...	Then...
Hang up while using the Handset	--Return the handset to its cradle, -or press EndCal
Hang up while using the Speakerphone	--Press **Speaker** button that is Red, -or press **Line** button for the appropriate line, -or press EndCal
Hang up while using the Headset	--Press **Handset** button, （Do not keep the headset mode）, -or press EndCal (keep the headset mode)
Hang up one call, but preserve another call on the other line	--Press EndCal, -or refer to the above three methods

Using Hold and Resume (Switch Calling Line)

You can hold and resume calls. You can take a call in one line at anytime, and the other

lines would be hold. As a result of that, you can switch different calling line on our phone.

If you want to...	Then...
Put a call on hold	--Press **HOLD** button, -or press Hold
Hold a line and switch to another line	Press another **Line** button for the appropriate line
Resume a call on current line	--Press **Line** button,
Release a call on different line	Select the line want to release hold, press the line, so recovery;

Tips

• Engaging the Hold feature typically generates music or a beeping tone.

• A held call is indicated by the Yellow-green and flashing Line button.

Transferring Calls

Transfer redirects a connected call. The target is the number to which you want to transfer the call.

If you want to...	Then...
Talk to the transfer recipient before transferring a call (consult transfer)	--1) Press **TRANSFER** button or press Transf; --2) Enter number; --3) press "**#**"（default) , -or press Send then transfer the call, -or wait five seconds(default)then transfer the call
Transferred to idle lines or other numbers without talking to the transfer recipient (Blind transfer)	--1) Press **TRANSFER** button or Transf; --2) Press Blind; --3) Enter number; --4) Press "**#**"（default) -or press Send, then transfer the call; -or wait five seconds(default)then transfer the call

Blind transfer to the held line	--1) Press **TRANSFER** button or press Transf; --2) Press the **Line** button of held line

Using Mute

With Mute enabled, you can hear other parties on a call but they cannot hear you. You can use mute in conjunction with the handset, speakerphone, or a headset。

If you want to...	Then...
Toggle Mute on	Press **Mute** button, then the button is Red
Toggle Mute off	Press **Mute** button, then the button light off

Do Not Disturb

You can use the Do Not Disturb(DND) feature to block incoming calls on your phone with a busy tone（Can also be set to their voice mail or other extension numbers, etc.).

If you want to...	Then...
Enable global DND	--1) Press DND; --2) All enabled line on the phone would changes to 8001:DND status.
Enable DND on a single line	Press **MENU** or **OK** button > "Function setting" > "DND" > (select line) "Enable"
Disable DND	--Global DND enabled, press DND to disable global DND; --Line DND enabled, press twice DND, -or press **MENU** or **OK** button > "Function setting" > "DND" >(select line) "Disable"

3-way Conference

You can establish a three-party conference, during the conversation three phone parties can communicate with each other.

If you want to...	Then...
Invite the transfer recipient into a conference in a transferring	--1) When the transfer recipient answer the call, press **CONFERCENCE** button or Confe on your phone; --2) Then the held one, transfer recipient and you will be into a conference, and the LCD will display conferenc 0:0:10 status.
Invite the third party into a conference in a active call	--1) Press **CONFERENCE** button or Confe in an active call; --2) Enter the third party number; --3) After connected the third party, press **CONFERENCE** button or Confe again
establish a conference with held line	--1) when one phone line is holding on and the other line is busy; --2) Press **CONFERENCE** button, -or Press ConfeSoft key --3) press the held line's programmable button, the 3-way Conference will establish.

Expansion Installation(only ES330 has this item)

If you want to...	Then...
Expansion installation	--1) Press **MENU** or **OK** button > "Function setting" > "expansion installation", --2) if you want to install expansion, please according to tips to do ,after you install ,press"finish".

Expansion Settings(only ES330 has this item)

If you want to...	Then...
Expansion setting	--1) Press **MENU** or **OK** button > "Function setting" > "expansion installation", --2) choose which you want to set "expansion" --3)choose which you want to set " programmable keys " --4)you can set : Mode:Speed Dial、Asterisk BLF、Speed Dial Prefix、BLA、DTMF Account :choose account which you want to set Name:give it a name which you want Number: set your expansion number

Time&Date

If you want to...	Then...
Time&Date	--1) Press **MENU** or **OK** button > "Function setting" > "time&date", --2)you can select : SNTP: select "enable "to set parameter: time 、server 、daylight SIP server: select "enable " to set parameter: root can modify date . manual Settings: select "enable "to set parameter: date and time

VOIP Call Forwarding

If you want to…	**Then…**
Unconditional transfer	--1) Press **MENU** or **OK** button > "Function setting" > "voip call forwarding"; --2)select "unconditional transfer", select enable. --3)input number which you want to transfer, when have a call in ,it will unconditional transfer.
Busy transfer	--1) Press **MENU** or **OK** button > "Function setting" > "voip call forwarding"; --2)select "busy transfer", select enable. --3) input number which you want to transfer, when have a call in conversation ,it will transfer.
No answer transfer	--1) Press **MENU** or **OK** button > "Function setting" > "voip call forwarding"; --2)select "no answer transfer", select enable. --3) input number which you want to transfer, when have a call in but you don't have time to answer ,it will transfer.

5.Advanced Call Handling

Speed Dialing

Speed dialing allows you to enter an index number, press a button, or select a phone screen item to place a call.

If you want to...	Then...
Set up Speed Dials on your phone	--1) Press **MENU** or **OK** button > "Function setting" > "Hot line keys"; --2) You can configure twelve speed dial numbers on the SayHi ES320 IP Phone; --3) Press **OK** button or Modif to set and modify: -Mode: -Speed dial: Speed dial mode -Asterisk BLF: In the Speed dial based on the increase in BLF (Busy line detection) function -Account: Speed Dial hot keys using the account -Name: Description of this hot-key, -Number: Need to speed dial numbers --4) Press Submit to save the changes

Using the phone book

You can store a large number of contacts in your phone's directory. You can add, edit, delete, dial, or search for a contact in this directory.

If you want to...	Then...

Add Contacts	--1) Press Contac, -or press **MENU** button > "Phone book", -or press **Directories** button > "Phone book"; --2) Press Modify; --3) Select "Add contact", press **OK** button or OK; --4) Use the navigation keys to select content, press **OK** button or Modify to set and modify: -Name: set the name of contact, -NO.1-5: you can set up 5 contacts' numbers, -Group: the contacts be divided into different user's groups --5) Press Submit soft key to complete
Add group	--1) Press Contac soft key, -or press **MENU** button > "Phone book", -or press **Directories** button > "Phone book"; --2) Press Modify soft key; --3) Select the "add group" then press **OK** button or OK; --4) Use the navigation keys to select content, press **OK** button or Modify to set and modify: -Group name: name of the group -Description: description of the group --5) Press Submit soft key to complete

Modify group	--1) Press Contac soft key, -or press **MENU** button > "Phone book", -or press **Directories** button > "Phone book"; --2) Press Modify soft key; --3) Select the "Modify group" then press **OK** button or press OK ; --4) Select the group you want to modify, press the **OK** button or Modif to set and modify, press Submit to save the change
Delete group	--1) Press Contac soft key, -or press **MENU** button > "Phone book", -or press **Directories** button > "Phone book"; --2) Press Modify soft key; --3) Select the "Delete group" or **OK** button or OK ; --4) Select a group you want to delete, press **OK** button or OK
View/Edit Contacts	--1) Press Contac soft key, -or press **MENU** button > "Phone book", -or press **Directories** button > "Phone book"; --2) Select "View ALL", -or select a contact who are belong to different group; --3) Select the contact, press the **OK** button or View (to edit the contact's information, press **OK** button or Modif)

LDAP	--1) --1) Press Contac soft key, -or press **MENU** button > "Phone book" -or press **Directories** button > "Phone book" --2)Select "LDAP", press the **OK** button. --3)Select"Search name->name", then input the name ,and press **OK** or **Del.** --4)Select "Search number->Number", then input the number ,and press **OK** or **Del.** **Pay attention: before you use LDAP function, you need to configure LDAP rule in the web configure page.**
Call from phone book	--1) Press Contac soft key, -or press **MENU** button > "Phone book", -or press **Directories** button > "Phone book"; --2) Select "View ALL", -or select a contact who are belong to different group; --3) Select a contact, then press Dial, (If there are multiple numbers of one contact, press Dial to enter the interface of "call options", select the one you want to call and press Dial)
Modify the relative account of a contact	--1) Open your web browser, enter the "web" interface. (For details, you can refer to *7.Web Settings*.) --2) Open "Contact" > "Phone book", select the contact who are needed to be modified, click --3) Select the account in the drop-down column of the account, click "**Submit**" to complete it.

Using Call Logs

Your phone maintains records of your missed, placed, and received calls.

If you want to…	Then…
View your call logs	--1) Press **MENU** button > "Call history" > "Missed Calls", "Received Calls", or "Dialed numbers" --2) Use the navigation keys to view the call record information.
Dial from a call log	Please refer to the previous part *4.Basic call handing – Placing a call.*
Erase your call logs	--1) If you want to delete a call record, you have to select this record from the logs and press Del; --2) If you want to delete an entire call record list, you have to select this record list from the logs and press DelALL

Tips

• Each call log store up to 20 entries on SayHi ES320 IP phone.

6.Keypad Instruction

SayHi series IP phones are can be configured in two ways. The first you can use the phone keypad where you can settings for you IP phones, the other you can log in to User Options web pages where you can settings for you IP phones.
Use phone keypad to setting. Press **MENU** or **OK** button to the main menu, Use the navigation keys to select menu, press **OK** button to confirm menu selections, press **C** button or Del to delete input information.

Language

SayHi 320 IP Phone supports Simplified Chinese and English Russian

If you want to…	Then…
To change the language via Phone interface	--1) Choose "System setting" > "Phone setting" > "Language"; --2) Scroll through the list of available languages. --3) Press **OK** button or Modif when the desired language is highlighted. The language appears on the graphic display will be changed to the one you chose.

SIP Account Settings

SayHi 320 series IP phone make calls based on sip accounts, SayHi 320 series IP phones can support 2 independent SIP account, each account can be configured to different SIP server.

If you want to…	Then…

Create an SIP account	--1) Choose "System setting" > "Advanced setting"; --2) Enter the password required（The default is empty）; --3) Choose "SIP" > "Account sip"; --4) Choose one of the account you want to setting, you can configure the following parameters -**Enable account***: choose Enable -**Display Name**: The name displayed on the screen -**User Name***: the account matched with the SIP server.（extension number）, -**Authen usr**: the Authenticated users matched with the SIP server.（The default With the same account) -**user pwd***: the user password matched with the SIP server -**Description**: description of this account, -**SIP1***: the primary SIP server, By default all calls through the server, -**SIP2**: the secondary SIP , When the primary server is unavailable ,use the SIP server -**Refresh time**: Registration refresh interval, the minimum value is 20 The default value is 3600. --5) Set up the above parameters, Press Submit softkey to saves settings, Complete the account creation; * **Note**: the parameters with the * mark must be set.
Disable sip account	--1) Choose "System setting" > "Advanced setting"; --2) Enter the password required（The default is empty）; --3) Choose "SIP" > "Account sip"; --4) Choose "Enable account" > "Disable"; --5) Press Submit soft key

Network Setting

If you want to …	Then…
network setting	--1) Choose "System setting" > "Advanced setting"； --2) Enter the password required（The default is empty）； --3) Choose "Network", you can configure the following parameters: -**Type**: static IP or DHCP -**IP**: enter IP address , Note: Do not duplicate the IP address with other devices on the network -**Mask**: enter appropriate subnet mask -**GW**: enter appropriate gateway - **DNS1**: enter IP address of the primary DNS server - **DNS2**: enter IP address of the secondary DNS server -**Web port**: the default Web port is 80,if you change it(for example change it to 88),you must use IP and Web port to login the web page (for example http://192.168.0.200:88).It will take effect on next reboot. -**Telnet port**: the default Telnet port is 23,if you change it(for example change it to 2003),you must use IP and Telnet port to login the manage page (for example telnet 192.168.0.200:2003).It will take effect on next reboot.

Load default settings

If you want to…	Then…

Load default settings	--1) Choose "System settings" > "Advanced settings"; --2) Enter the password required（The default is empty）; --3) Choose "load default settings",and press'**OK**', then "**Reboot"** the phone.

Customizing Rings and Volume

If you want to...	**Then...**
Change the ring tone	--1) Choose "System setting" > "Phone setting" > "Ring type"; --2) Press navigation to choose ring tone; --3) Press Play softkey Choose a ring tone to play a sample of it. Press Stop softkey to Stop Playing Press OK or Selec softkey to set the ring tone, Press Back softkey to cancel
Adjust the volume level	--1) Choose "System setting" > "Phone setting" > "Volume setting"; --2) You can adjust the volume level of following types -**Ring volume**: Phone call ring volume, -**Handset volume**: Handle output volume, -**Handset mic volume**: Handle input volume, -**Speaker volume**: Hands-free speaker output volume, -**Speaker mic volume**: Hands-free input volume, -**Headset volume**: Headphone output volume, -**Headset mic volume**: Headset microphone input volume

WIFI setting(only WS320 has this item)

If you want to…	This…
Set WIFI	--1)Choose "System settings">"advanced settings">"advanced password:" --2) Press navigation to choose WIFI setting; --3）Press "ok" button or **-Current site:** the wifi which the phone use now -**Site list**: where you can choose wifi --4）Press "site list", choose one wifi network which the phone searched **-SSID:** SSID name **-BSSID: the mac address of the WIFI network** **-Channel:the channel of the WIFI network use** **-Type:the type of the WIFI network** **-Encrypt:the encrypt of the WIFI network** **-Signal:the signal of the WIFI network** --5）Press "SSID",set WIFI which you choose **-Encryption: the encryption of the WIFI network** **-Key type: the key type of the WIFI network** **-Key: the password which you should set to allow yourself to enter the WIFI network**

View status

If you want to see the phone status,Press **MENU** button > "view status" ,or press **OK** button > "view status",you can see the detail information of the phone.

If you want to ……	Then……
Network	You can see the network detail information of the phone
Lines	You can see the SIP account
software	It include phone Mode、software version、kernel version、Upgrade date、Running time
Expansion	Can check the expansion

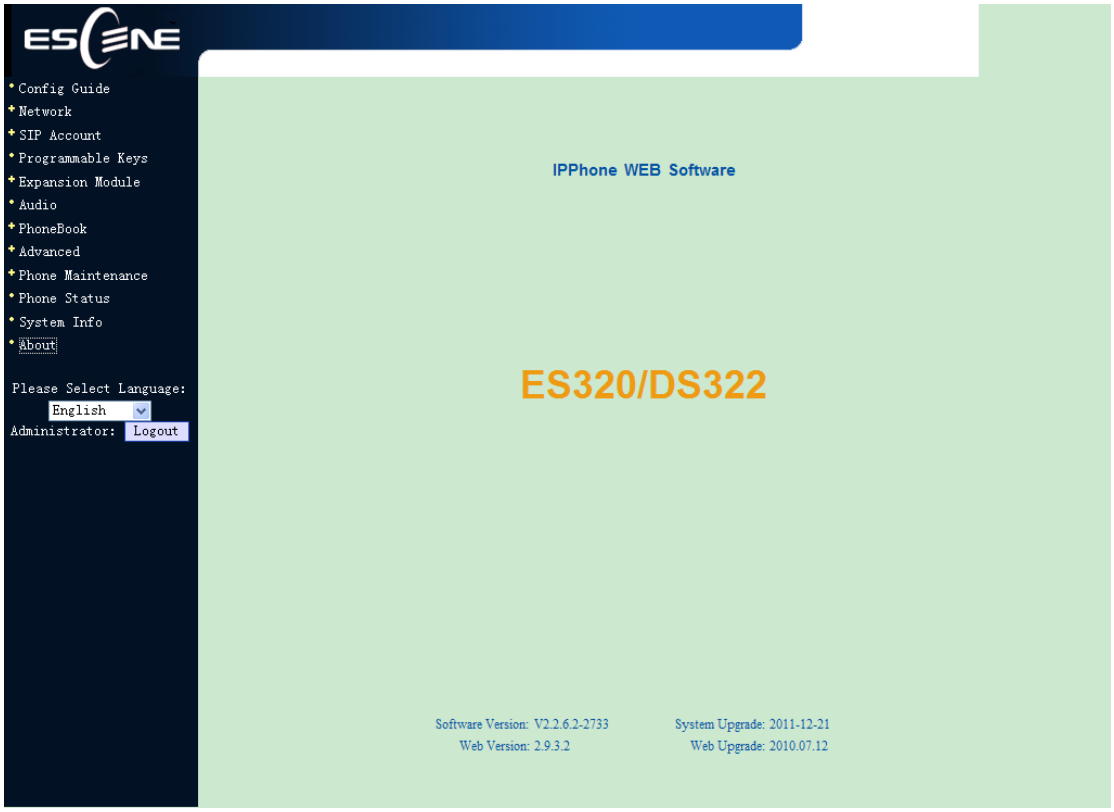
Diagnose

If you want to check the phone hardware function,Press **MENU** button > "diagnose" ,or press **OK** button > "diagnose",you can check the phone item as below.

If you want to ….	Then ….
Keys	You can check the phone keys
LCD	Press'**OK**'to start,press'**C**'to exit
Lights	Press'**OK**'to start,press'**C**'to exit
Sound	Press'**OK**'to start

7.Web Settings

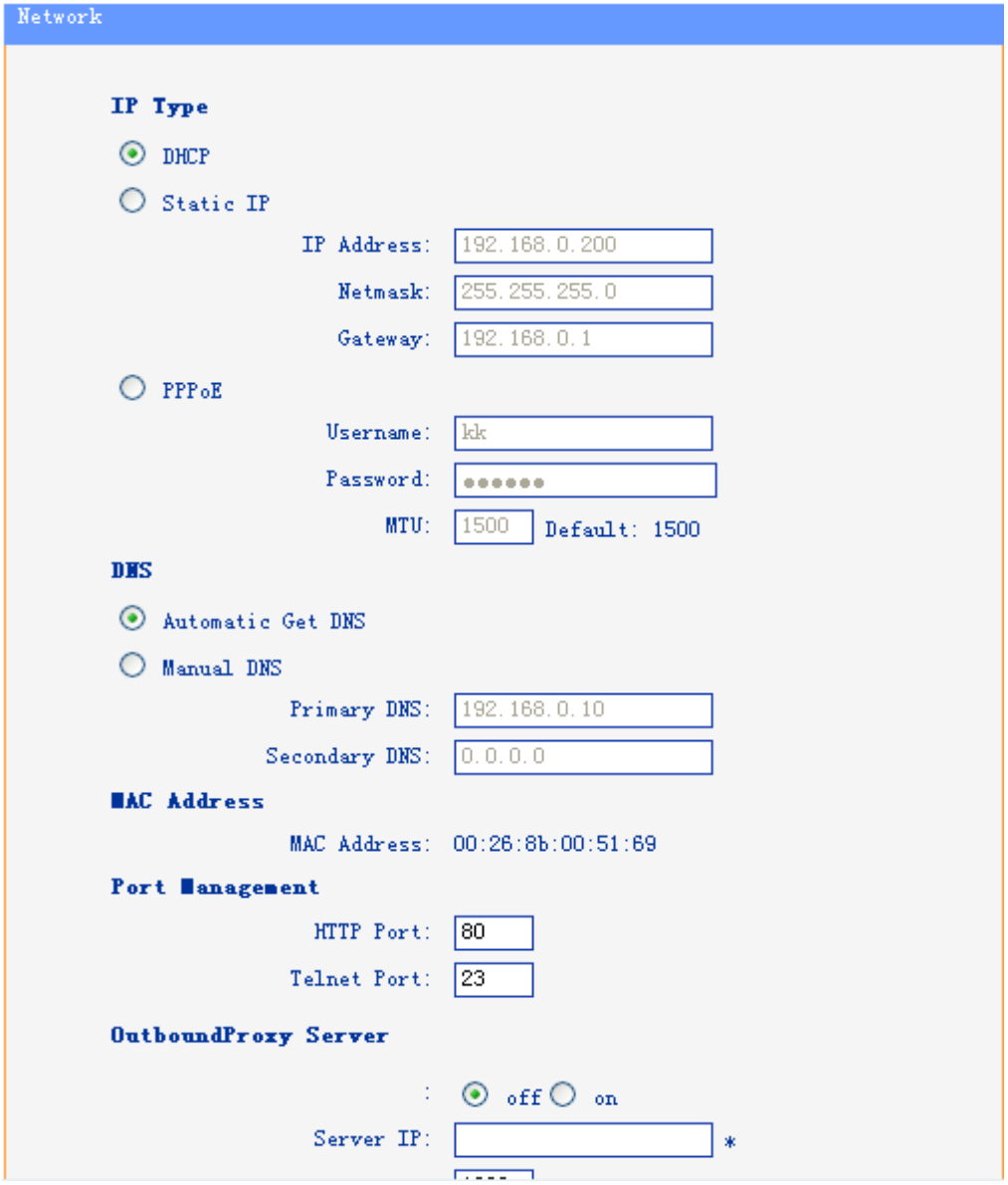
We can configure IP Phone more handy through web setting. Press OK button on the keypad of the phone to enter the status page and find out the IP address of IP phone. Enter it (for example http://192.168.0.200) into the address bar of web browser. The default login name and password are both "root".



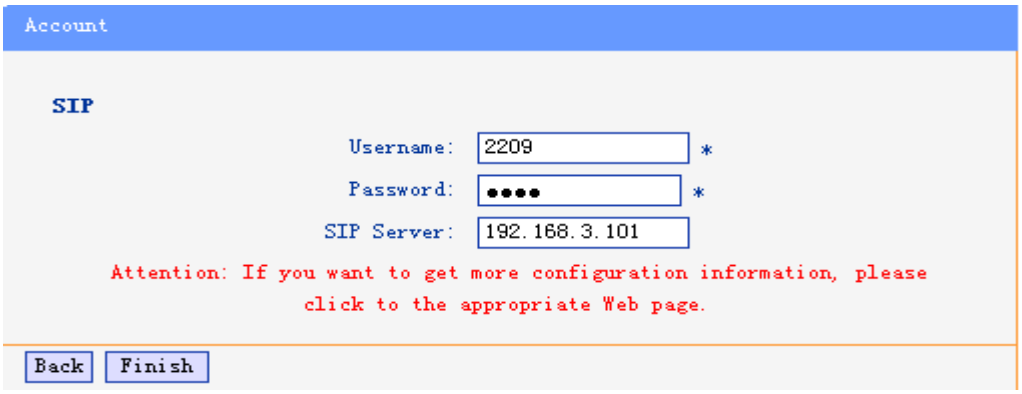
Config Guide

You can finish the base configuration step-by-step by this guide.

When press 'next',you can configure the Network parameters for the phone,You can chose other option,such as static IP or PPPoE.



After config the network parameter,press next,then you can config sip account for the phone.

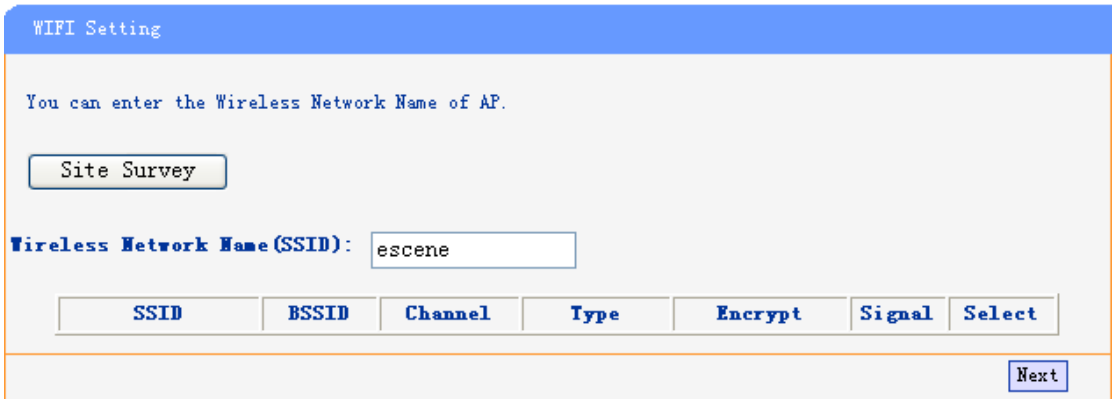


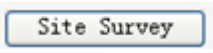
Press Finish,the base configuration of the phone is complete,now you can use the phone to

call with sip.

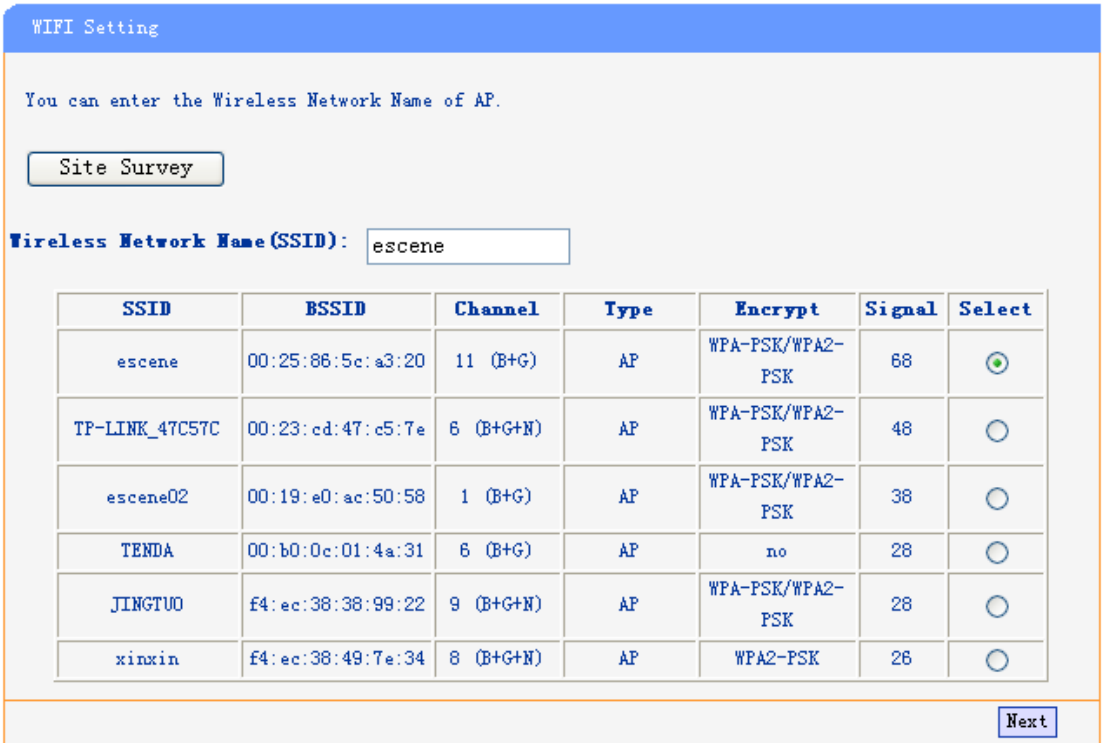
WIFI Setting(only WS320 has this item)

ou can config the WIFI parameters for the phone on the web page.

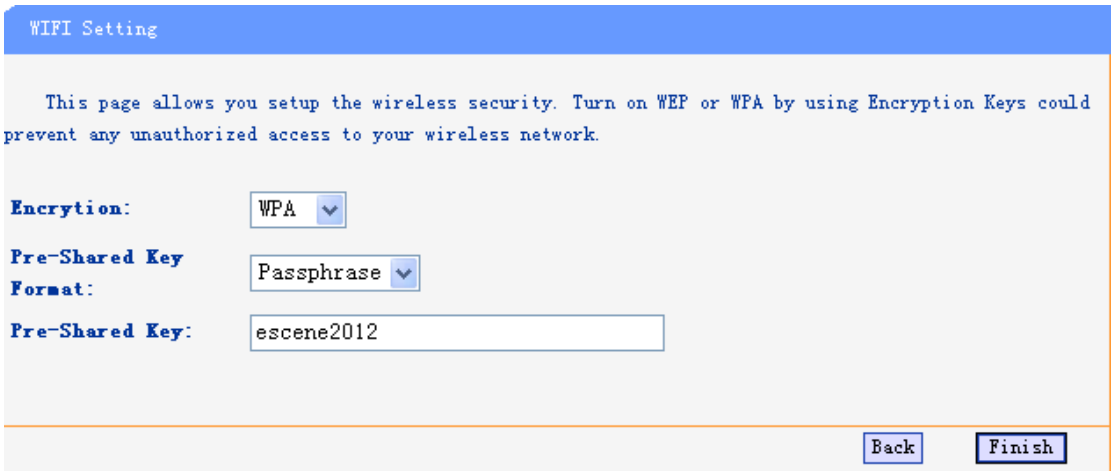


If you want to search the site, you can click the 

.



Choose anyone site and you will see,

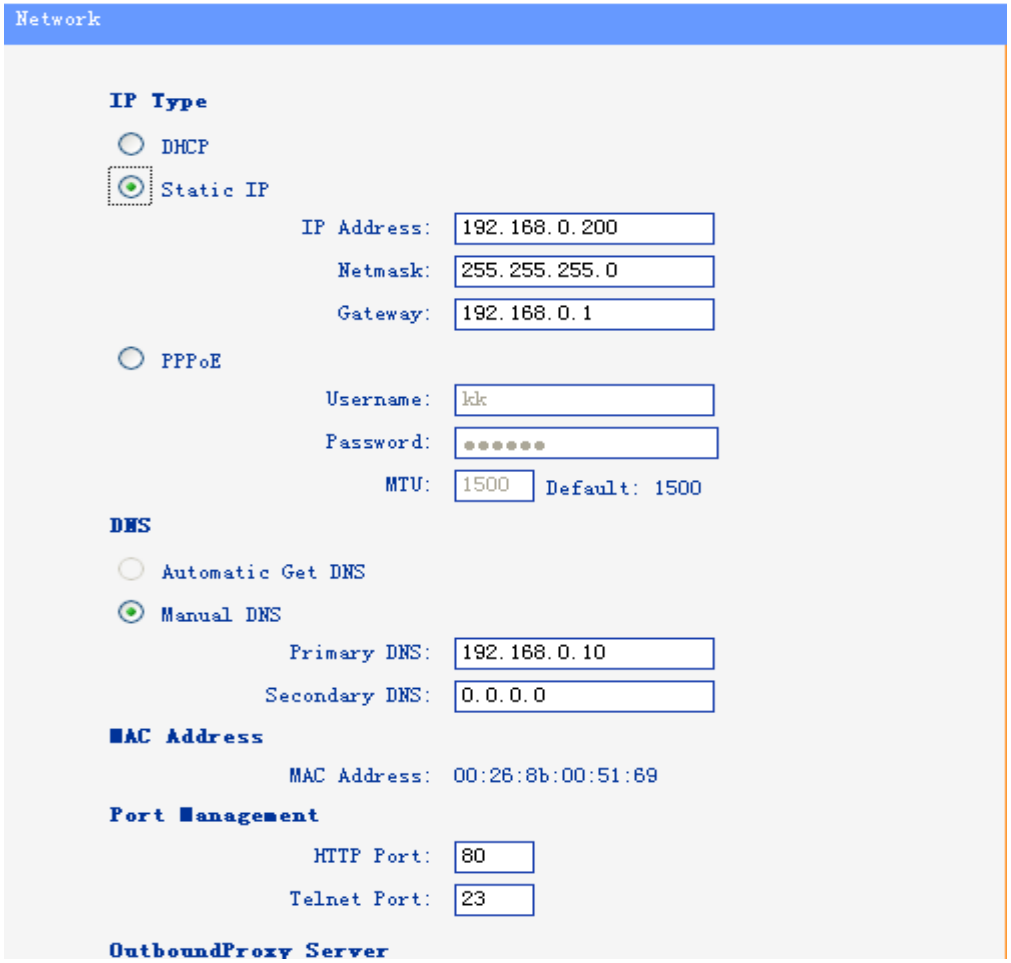


WIFI Status(only WS320 has this item)

You can know what the status of the WIFI from this function.

Network

You can config the network parameters for the phone on the web page.



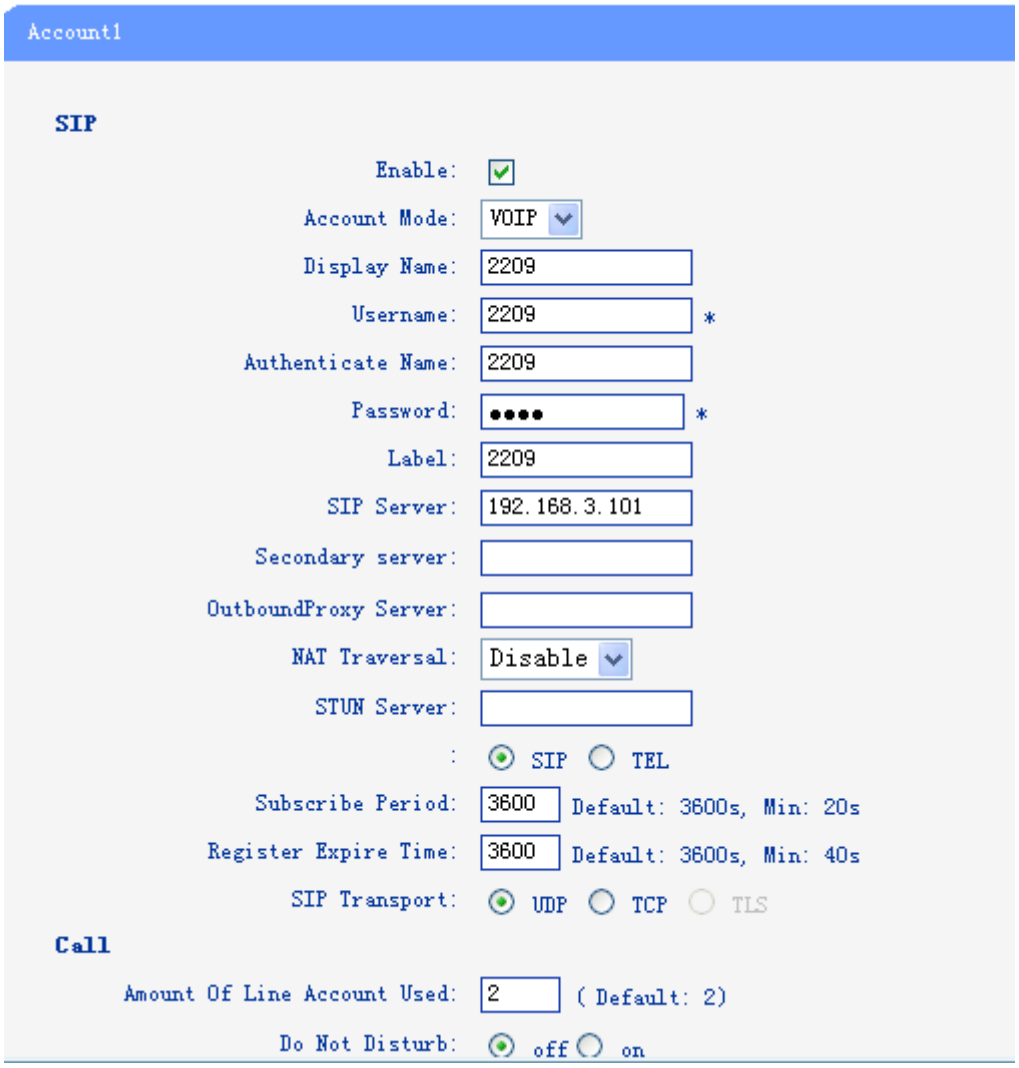
Choose network,you will find the following parameters:

Field	Description
DHCP	Config the phone get ip info from DHCP server
IP Address	Config the ip manual for phone
Netmask	Config the netmask manual for phone
Gateway	Config the gateway manual for phone
Username (pppoe)	The pppoe username
Password (pppoe)	The pppoe password
MTU (pppoe)	The mtu for pppoe,default is 1500
Primary DNS	The primary DNS server
Secondary	The secondary DNS server
MAC Address	Display the MAC of the phone
HTTP Port	The default web port is 80,if you change it(for example change it to88), You must use IP and Web port to login the web page(for example

Telnet Port	the default Telnet port is 23,if you change it(for example change it to 2003),you must use IP and Telnet port to login the manage page (for example telnet 192.168.0.200:2003).It will take effect on next

SIP Account

The phone attempts to register to the SIP server using the account/registrar data provided by the automatic or manual initialization



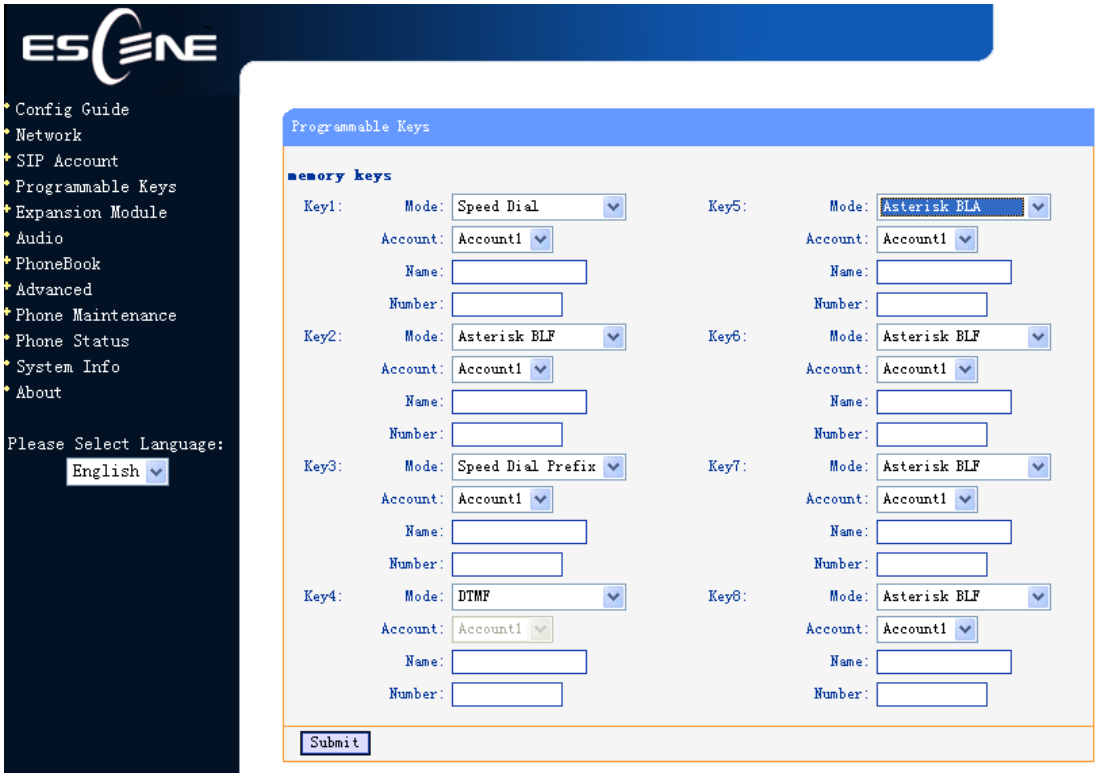
Choose one Account, you will find the following parameters:

Field	Description
Enable	You can choose on/off to enable/disable the line.
Account Mode	You can choose VOIP/PSTN,when you want to use as PSTN,you should select PSTN and plug the RJ-11 phone line into the SOR port of the

Display Name	It is showed as Caller ID when making a phone call
Username	It is a username provide by SIP Server
Authenticate Name	It is authenticated ID for authentication
Password	It is a password provide by SIP Server
SIP Server	Server for registration, provided by administrator
Register Expire Time	IP phone automatically registered every time
Amount Of Line Account Used	The line key of account used,default is 2

Choose one Account, you will find the following parameters:

Programmable Keys



Choose Programmable Keys,you will find the following parameters:

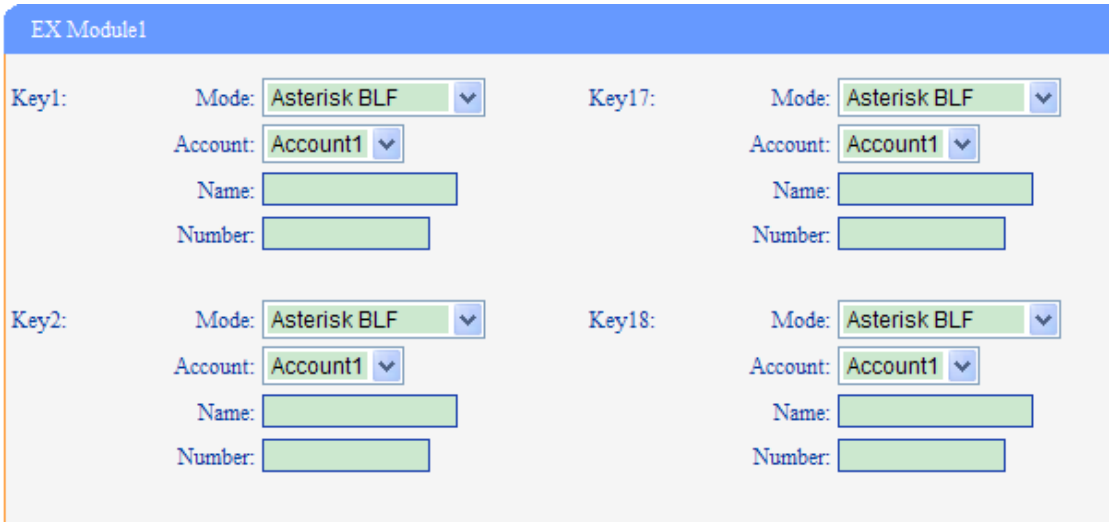
Field	Description
Speed Dial(Mode)	Use specific Key as Speed Dial key
Asterisk BLF(Mode)	Use specific Key as BLF key
Speed Dial	Use specific Key as Speed Dial Prefix key
DTMF	Use specific Key as DTMF key
Asterisk BLA	Use specific Key as BLA key

Expansion Module

Expansion module is extended Hotline function; you can believe it support more hotline by using Expansion module. You can refer to *2.Connecting Your Phone* about connecting of Expansion module.

After connecting Expansion module to a phone, you can install it as follow:

1) After installing, you can set parameters of each Extension as follow(only ES330 support)



Expansion module	
Key n	Each Expansion module supports 32 keys.
Mode	Five modes: --Speed Dial: Enable speed dialing in this key; --Asterisk BLF: Enable BLF in this key; --Speed Dial Prefix --DTMF --Asterisk BLA
Account	A SIP account relates to this key, another word, you will call this hotline by this SIP account.
Name	Description of this hotline.
Number	Number relates to this key.

*Regarding the settings of Expansion module, please confirm the model of your phone is DS3xx_E/DS3xx_PE.

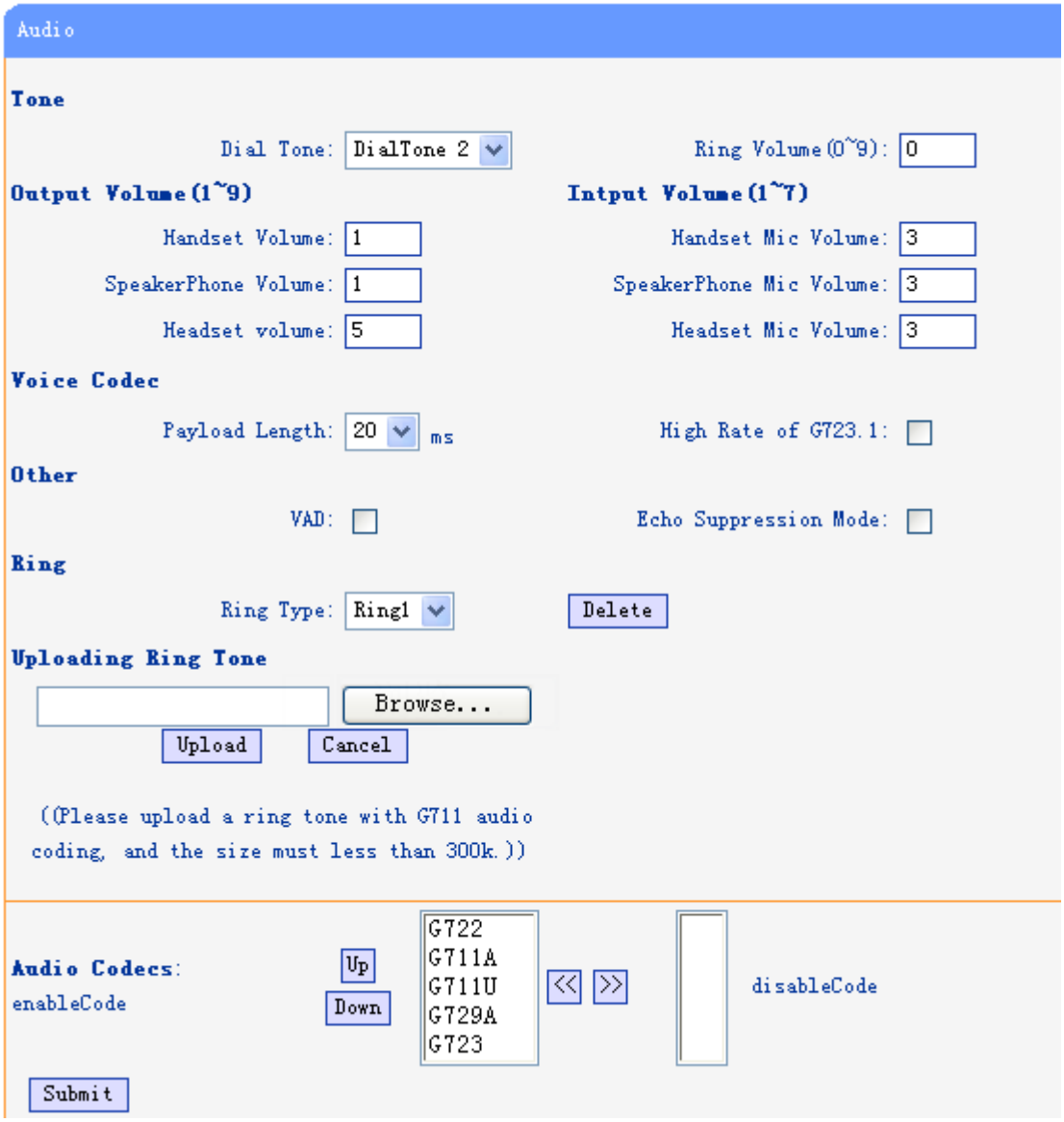
Audio

The IP phone supports the following voice codecs: G.722, G.711A, G.711U, G.723, and G.729A.

You can enable/disable the desired codecs via Web interface. Please contact your system administrator for more details about the codecs.

To enable/disable the codecs:

1) Choose Audio-> Audio Codecs



2) Use the navigation keys to highlight the desired one in the Enabled/Disable Codecs list, and press the >> / << to move to the other list.

3) Choose Submit to save the change.

Of course, you can control the voice bulk in this choose.

PhoneBook

Group

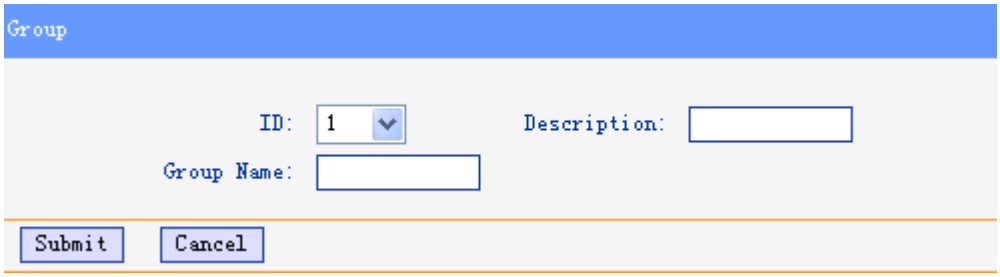
You can add, edit and delete group in a phone book on web page of ES320.

1) Click "PhoneBook" > "Group",

Group
Click the groupname you can modify or delete the member of the group
ID
Operation
Group Name
Group Member
Description
Attention: If you Click 'Delete Group' or 'Delete All Group', the member of group can not within a group, please click the group and delete the group.
Add Group
Delete All Group

If you want to add a Group, you just ought to click 'Add Group' .
You can edit an existed Group by click .
You can delete an existed Group by click , if you want to delete all Groups, you just ought to click 'Delete All Group'.

2) When you add a group or edit an existed group, you can set several parameters as follow:

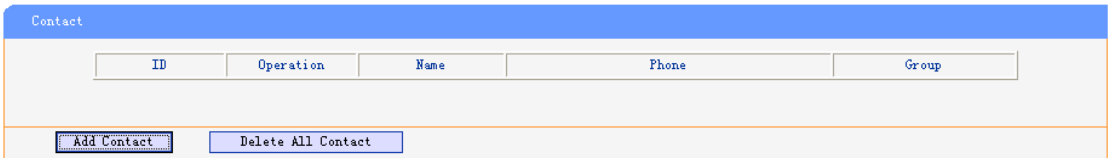


Group	
ID	Serial number of a group
Description	Description of a group
Group Name	Name of a group

Contact

You can add, edit and delete contact in a phone book on web page of ES320.
The phonebook can storage 300 contact entry.

1) Click "PhoneBook" > "Contact",



If you want to add a Group, you just ought to click 'Add Contact'.

You can edit an existed Contact by click .
You can delete an existed Contact by click , if you want to delete all Contacts, you just ought to click 'Delete All Contact'.

2) When you add a Contact or edit an existed Contact, you can set several parameters as follow:

Contact	
Serial Number	Serial number of a contact
First Name	The First Name of a contact
Last Name	The Last Name of a contact
Mobile Number	The Number1 phone number of a contact
Office Number	The Number2 phone number of a contact
OtherNumber	The Number3 phone number of a contact
Group	You can assign a contact to a specific group. If there isn't any group set on the phone, the group is None by default.
Account	Select a SIP account relating this contact, that is you can dial to the contact from this SIP account.

LDAP

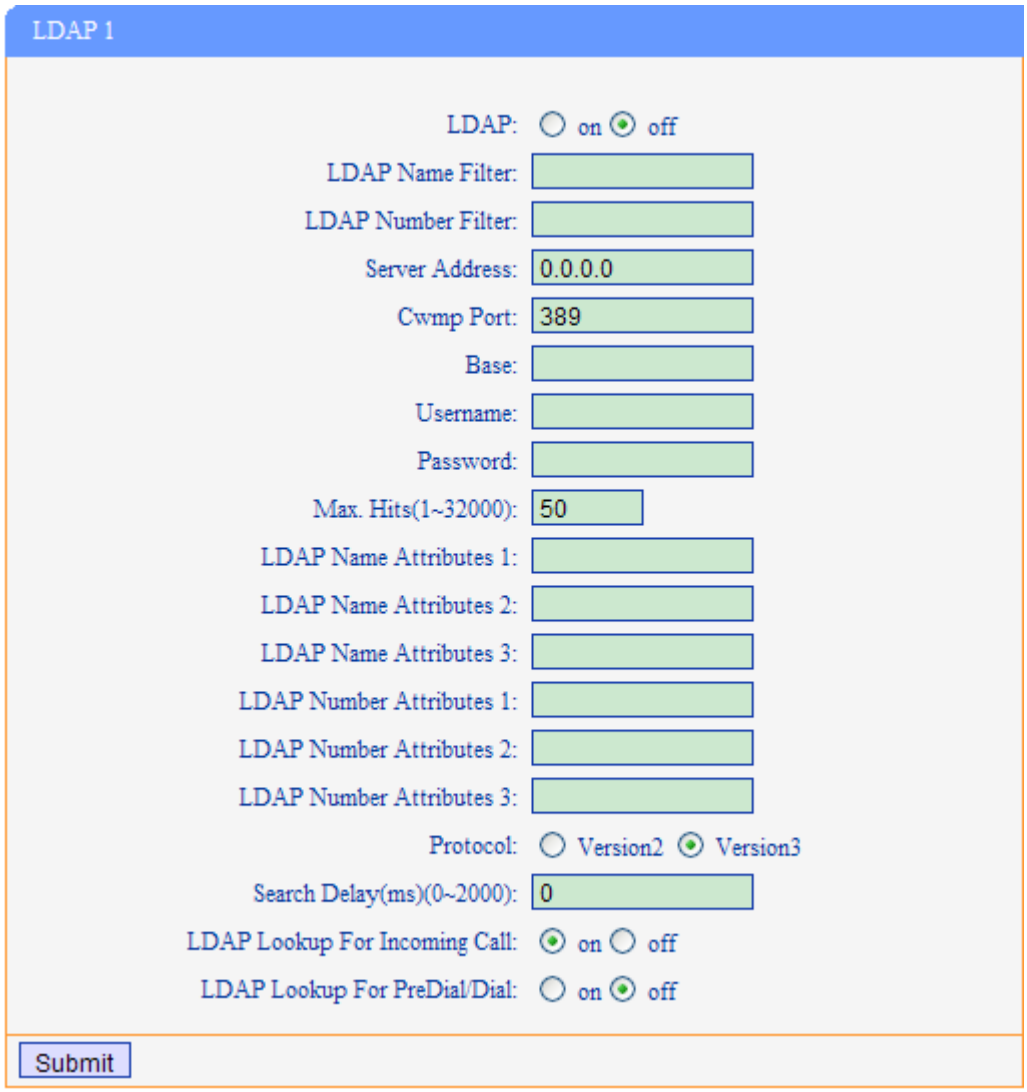
1).Overview

LDAP stands for Lightweight Directory Access Protocol which is a client-server protocol for accessing a directory service. LDAP lets you locate organizations, individuals, and other resources such as files and devices in a network, whether on the Internet or on a corporate intranet, and whether or not you know the domain name, IP address, or geographic whereabouts.

An LDAP directory can be distributed among many servers on a network, then replicated and synchronized regularly.

2).Configuration

Please note that LDAP Phonebook support on ES620\ES410\ES330\ES320\ES310\ES210, the version must be V2.2.3.1-2210 and higher, then access to the web "PhoneBook>LDAP page, you can find the configured option is like following picture. the detail configure in the appendix.



BanList

You can add, edit and delete banlist in a phone book on web page of ES320.

1) Click "PhoneBook" > "BanList",

If you want to add a BanList, you just ought to click 'Add BanList'.

You can edit an existed BanList by click .

You can delete an existed BanList by click , if you want to delete all BanLists, you just

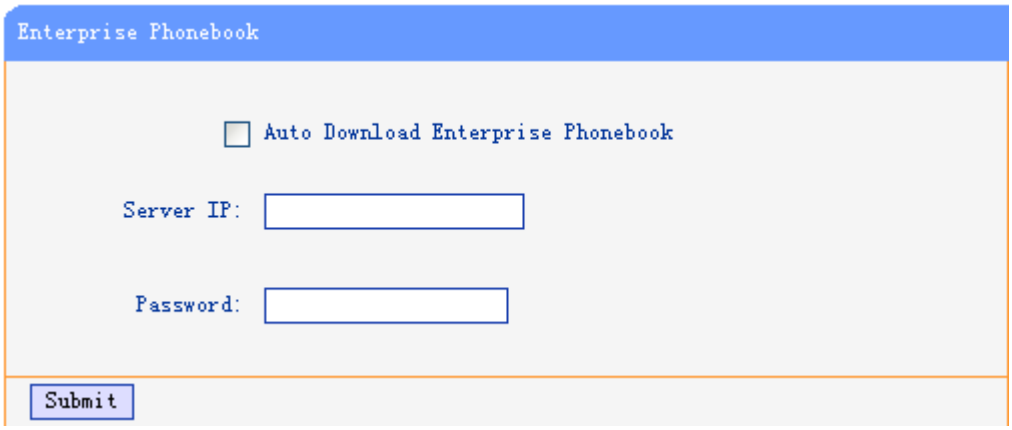
ought to click 'Delete All BanList'.

2) When you add a BanList or edit an existed BanList, you can set several parameters as follow:

BanList	
Serial Number	Serial number of a BanList
Description	Description of a BanList
First Name	The First Name of a ban contact
Last Name	The Last Name of a ban contact
Mobile Number	The number1 phone number of a ban contact
Home Number	The number2 phone number of a ban contact
Office Number	The number3 phone number of a ban contact
Account	Select a SIP account relating this ban contact, that is the ban contact can't dial to this SIP account.

Enterprise Phonebook

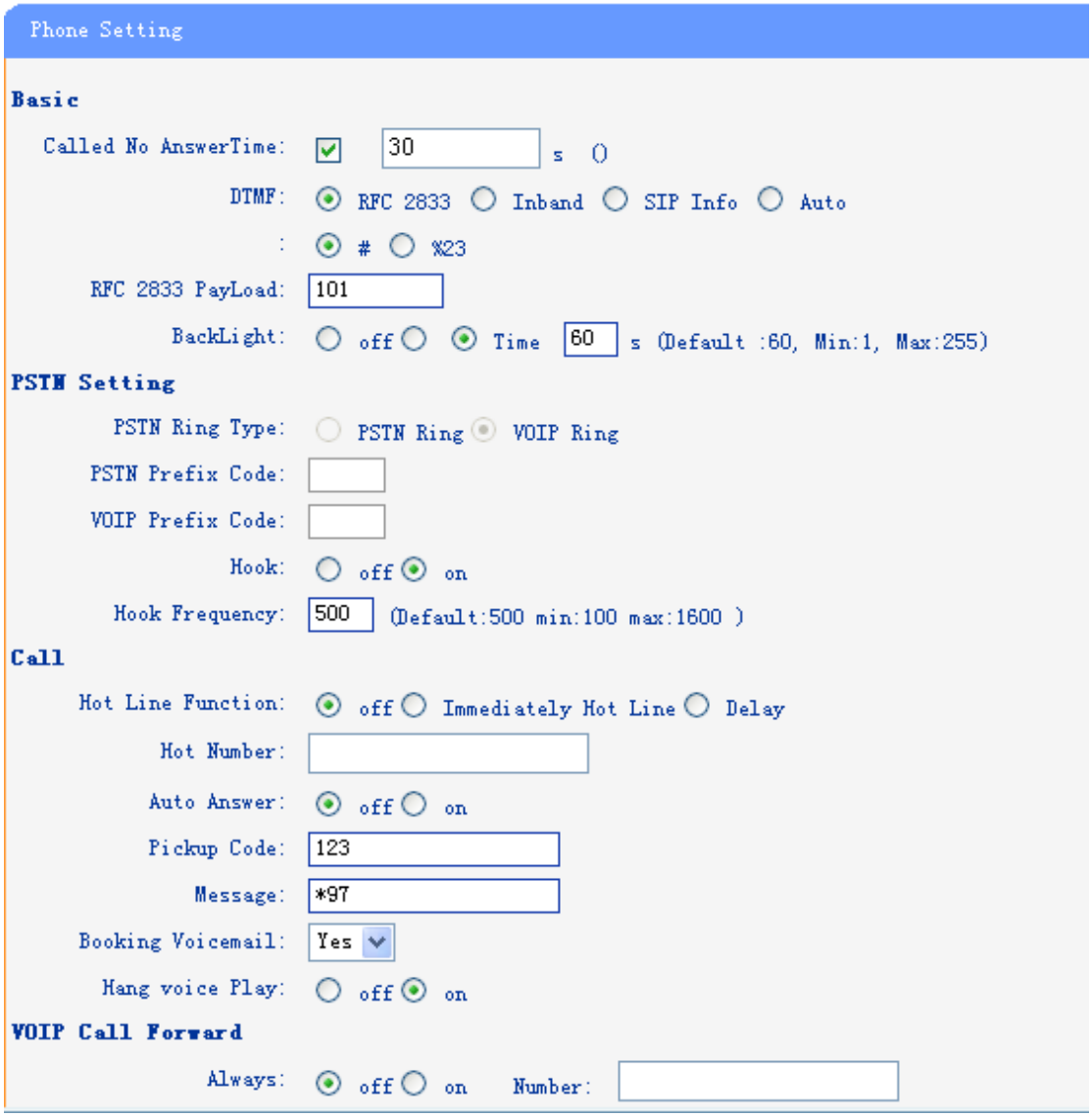
You can download Enterprise Phonebook from this web interface. But you should do second develop on the sip server to enable this function completely.
If the sip server no add some function to hold this option ,this option can be userd.



Advance

Phone Setting

You can use phone setting to set the time,qos,port Mirroring for the phone.

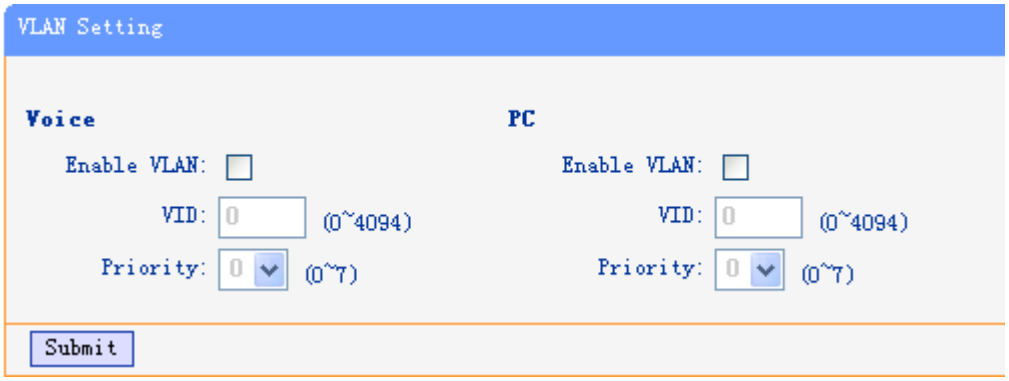

Phone Setting
Basic
Called No AnswerTime: 30 s ()
DTMF: RFC 2833 Inband SIP Info Auto
: # %23
RFC 2833 PayLoad: 101
BackLight: off Time 60 s (Default :60, Min:1, Max:255)
PSTN Setting
PSTN Ring Type: PSTN Ring VOIP Ring
PSTN Prefix Code:
VOIP Prefix Code:
Hook: off on
Hook Frequency: 500 (Default:500 min:100 max:1600)
Call
Hot Line Function: off Immediately Hot Line Delay
Hot Number:
Auto Answer: off on
Pickup Code: 123
Message: *97
Booking Voicemail: Yes
Hang voice Play: off on
VOIP Call Forward
Always: off on Number:

When used Phone Setting option,you can set several parameters as follow:

Phone Setting	
DTMF	The DTMF transmitted mode,include RFC 2833,Inband,SIP Info
BackLight	The backlight of the phone LCD
Set Time Mode	The mode of set time for phone,include SNTP/SIP Server/PSTN/Manual
Daylight Saving Time	Enable/disable the DST for the phone
Time Format	You can use 24 hour time format or 12 hour time format
Time Zone-GMT	You can select different time zone for the phone
Manual Setting	This used to manual set time for the phone
QoS	The qos priority,support diff-serv and precedence
Network Packet Mirroring	When select on,then you can capture the phone's packet use notebook which connect to pc port of the phone

VLAN Setting

You can add the phone and PC to different VLAN used VLAN Setting option.



When used VLAN Setting option,you can set several parameters as follow:

VLAN Setting	
Enable VLAN	You can enable/disable vlan for phone and pc
VID	The vlan you want the phone or pc to join

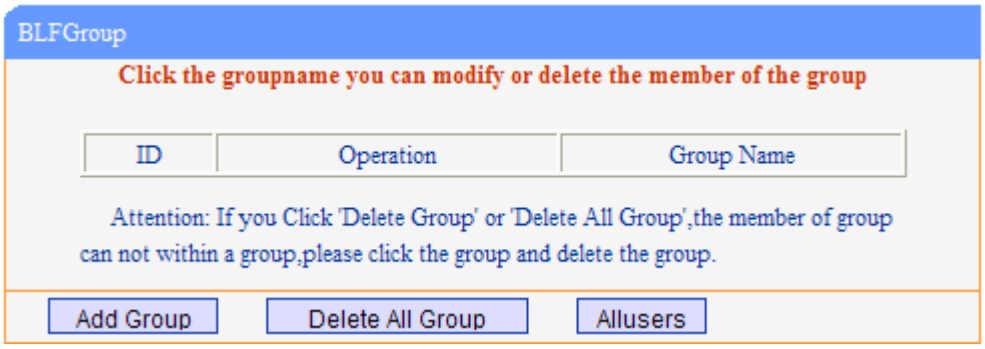
VPN Setting

IF you need to setup a VPN Setting, you should fill below options.

When used VPN Setting option, you can set several parameters as follow:

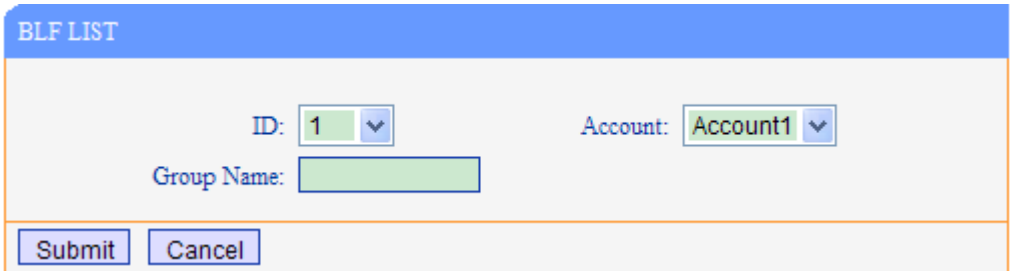
VLAN Setting	
Enable VPN	You can enable/disable VPN for phone and pc
VPN Type:	There is two choose you can choice.
VPN Server Addr	VPN server'ip
VPN User Name	VPN iser's name
VPN User Name	A password be userd foe authentication
SSL_VPN	You can upload VPN config

BLF setting

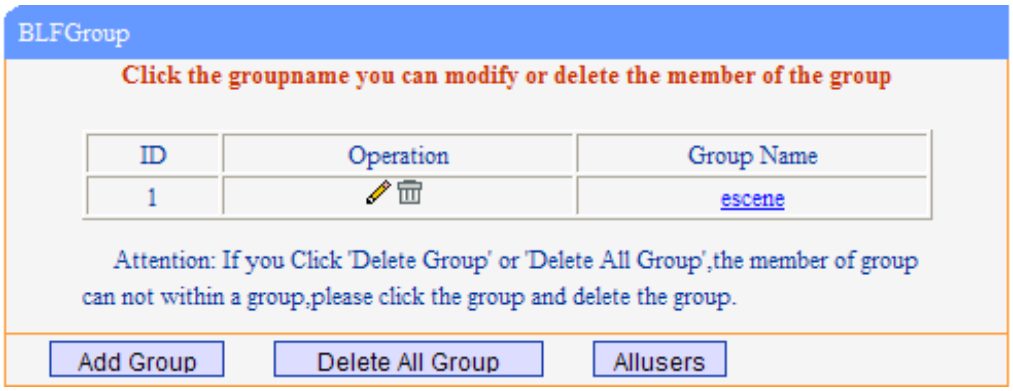

BLFGroup
Click the groupname you can modify or delete the member of the group
ID
Operation
Group Name
Attention: If you Click 'Delete Group' or 'Delete All Group',the member of group can not within a group,please click the group and delete the group.
Add Group
Delete All Group
Allusers

Add Group	You can add group
Delete All Group	You can delete all group
All users	You can add users

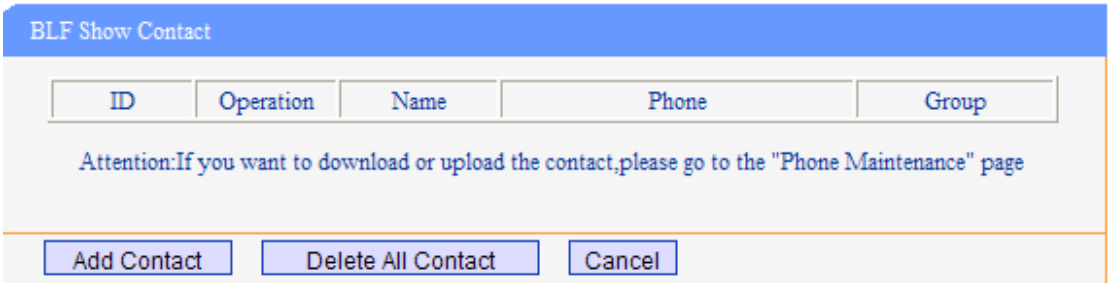
You can add group



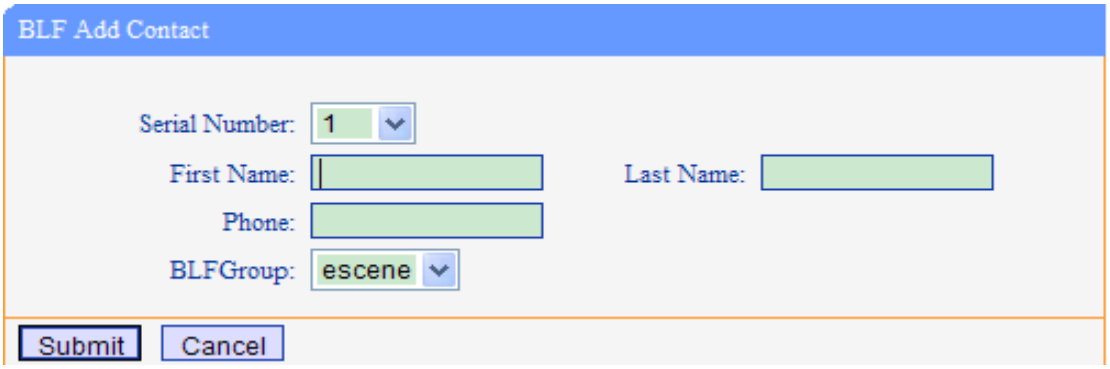
After you add group, you can edit or delete group, you also can add user ,press"All users"


BLFGroup
Click the groupname you can modify or delete the member of the group
ID
Operation
Group Name
1
escene
Attention: If you Click 'Delete Group' or 'Delete All Group',the member of group can not within a group,please click the group and delete the group.
Add Group
Delete All Group
Allusers

You can add contact.

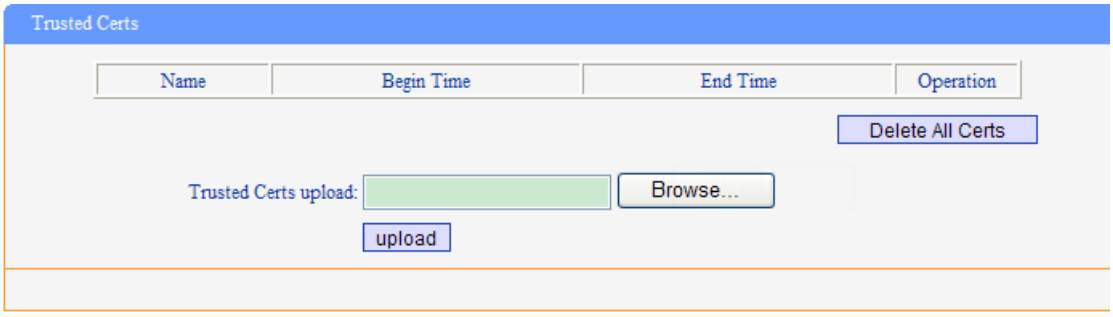


You can set user information



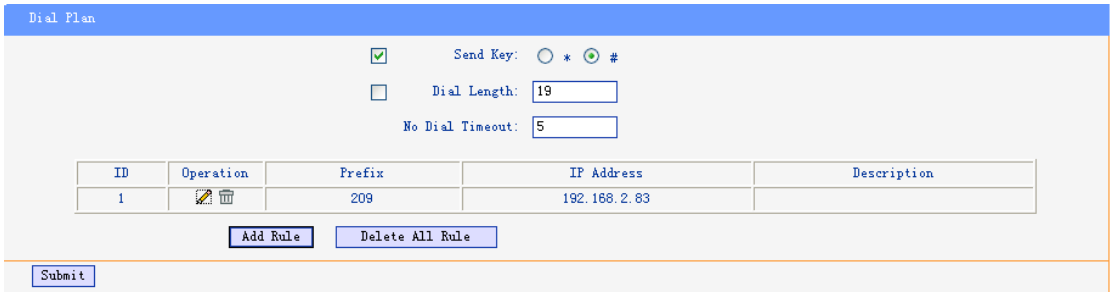
Trusted Certs

You can upload trusted certs.

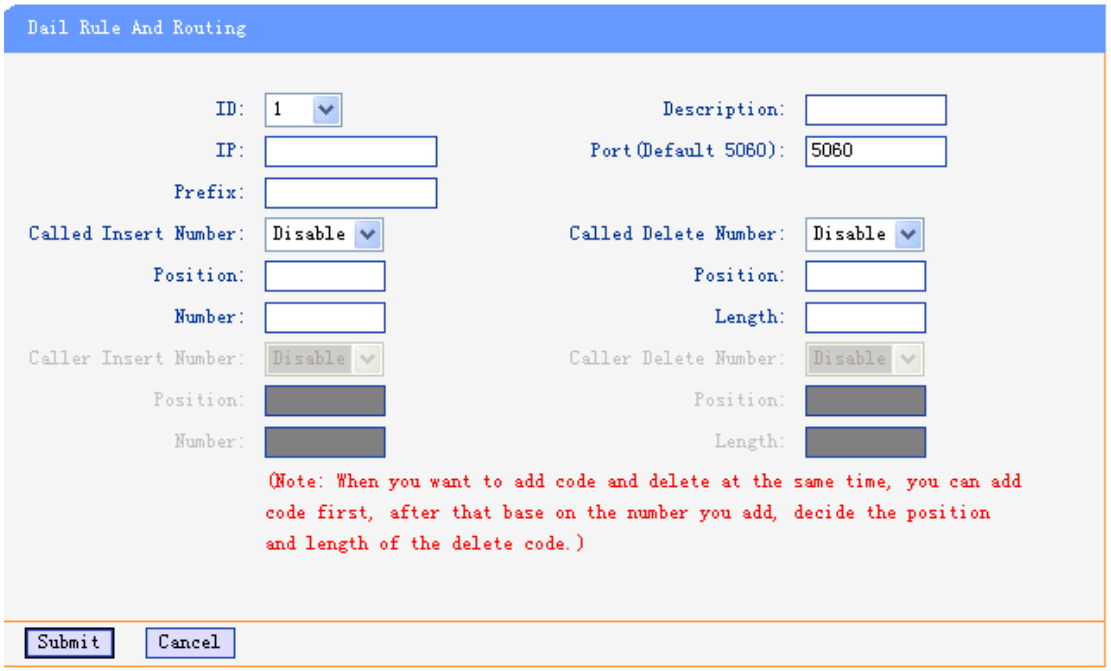


Dial Plan

If you want to setup a dial plan, you can click "Dial Plan".



Click "add rule" to entry this interface.



Dial Plan Setting	
ID	Dial Plan ID
IP	The ip of a phone which you want to call
prefix	The number which you need to press actually if you want to call the phone
Called Insert Number	There have two option, Enable or Disable.
Position	Which position you want insert the number

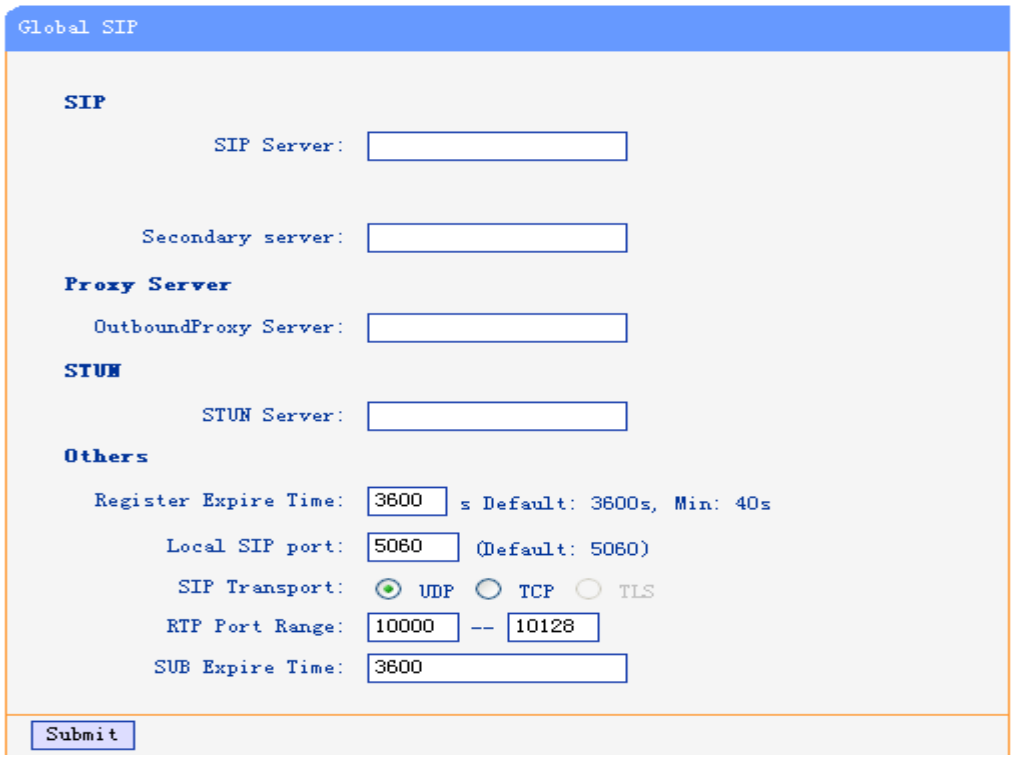
Number	Waht number you want to insert
Called Number Delete	There have two option, Enable or Disable.

Tips

(Note: When you want to add code and delete at the same time, you can add code first, after that base on the number you add, decide the position and length of the delete code.)

Global SIP

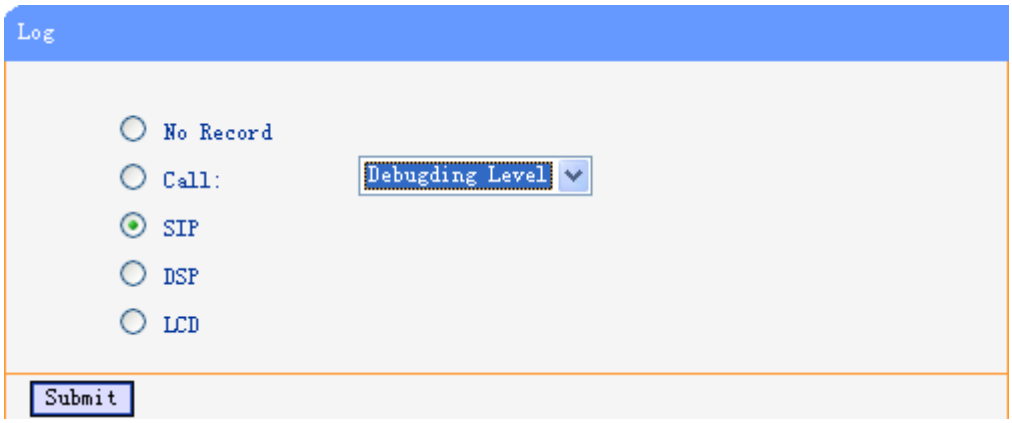
You also can setup the SIP server on Global SIP.



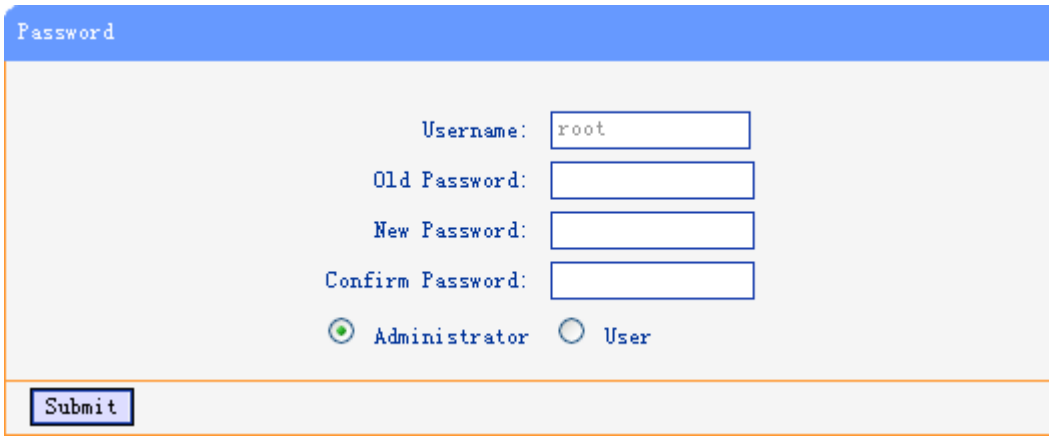
PasswordPhone Maintenance

Log

If you need to catch a debuging Level, you need setup on this interface.



You can change the password used to login phone GUI in Password option.

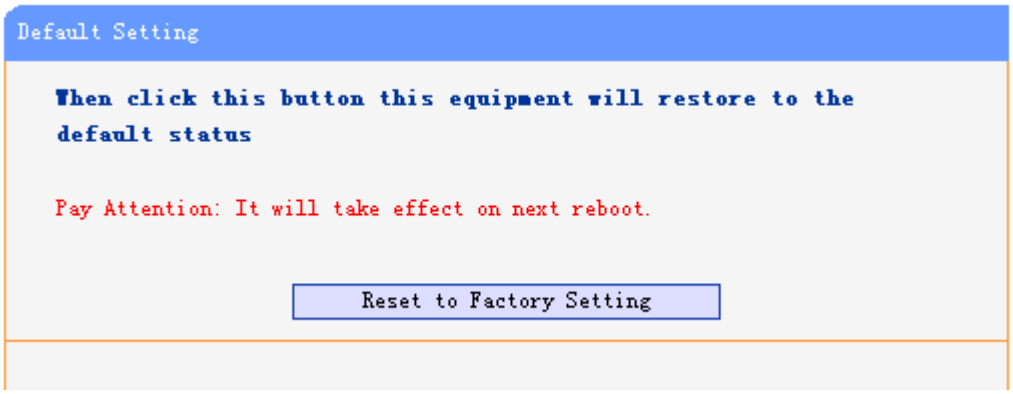


In Password option, you can set several parameters as follow:

Password	
Username	The login username of the web page
Old Password	The old password used to login of the web page
New Password	The new password used to login of the web page
Confirm Password	The new password used to login of the web page
Administrator	Login phone web page used administrator privileged
User	Login phone web page used general user privileged

Default Setting

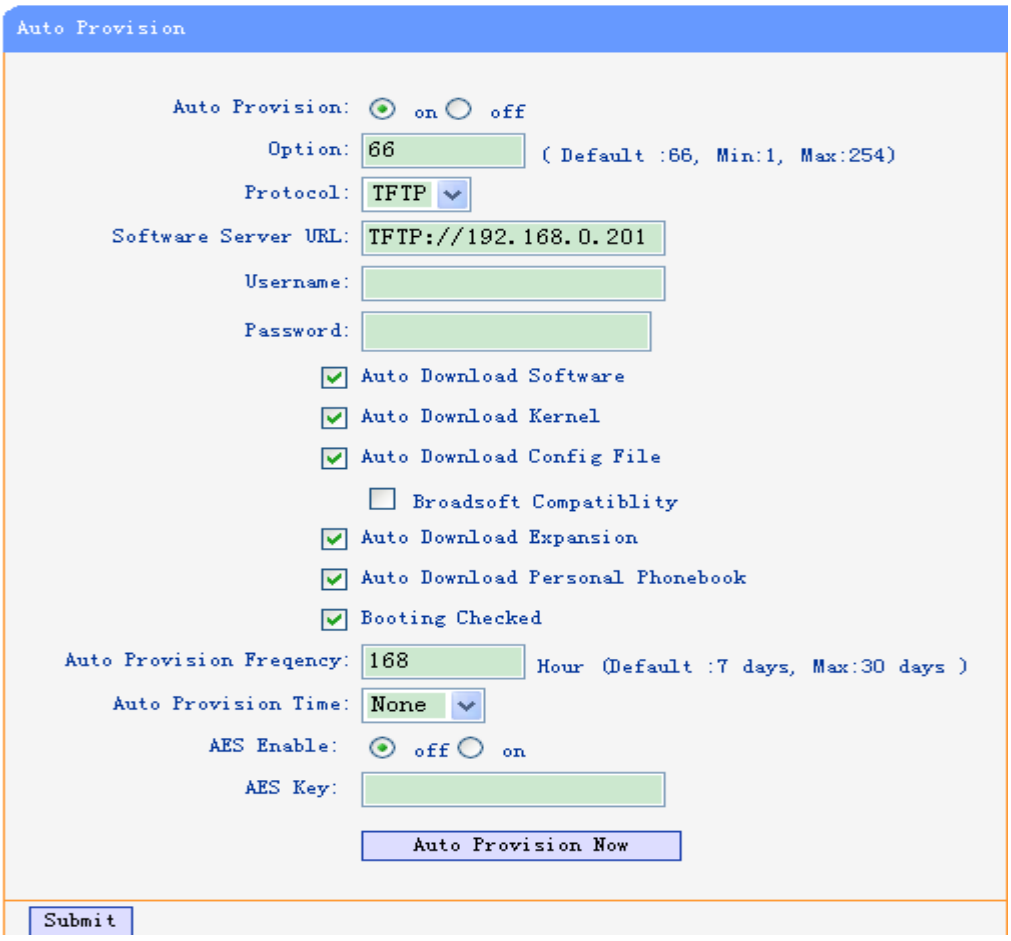
You can load the phone to the factory default setting in default setting option.


Default Setting
When click this button this equipment will restore to the default status
Pay Attention: It will take effect on next reboot.
Reset to Factory Setting

Press the 'Reset to Factory Setting' option,the phone will load to factory default setting on next reboot.

Auto Provision

when you open the auto provision function,the phone will auto provision if the phone detect a higher software or kernel which are put on the software server .the detail information about auto provision you can see the appendix.



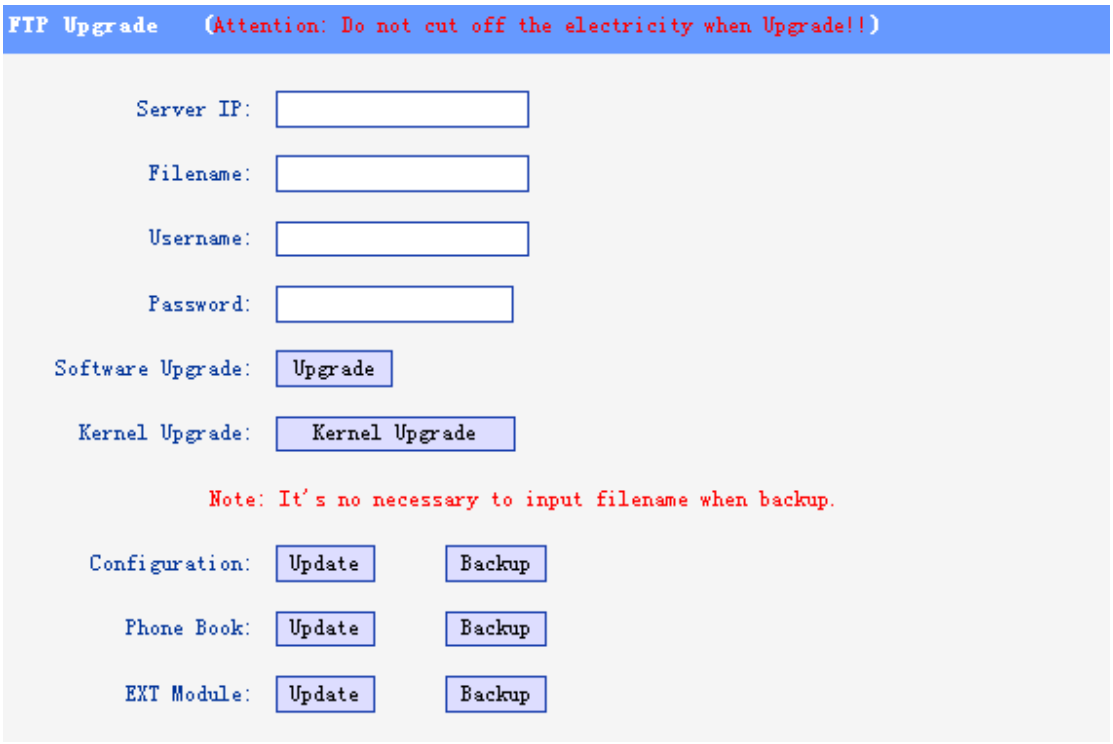
When use auto provision, you can set several parameters as follow:

Auto Provision

Auto Provision	You can enable/disable auto provision by select on/off
Protocol	The protocol use for auto provision,it include tftp/http/ftp
Software Server URL	The server address of the auto provision
Username	The username provide by provision server
Password	The password provide by provision server
Auto Download Software	This used to auto download software from server
Auto Download Kernel	This used to auto download kernel from server
Auto Download Config File	This used to auto download config file from server
Broadsoft Compatiblity	This used to compatible the broadsoft format's config file
Auto Download Expension(only ES330 has it)	This used to auto download expansion's config from server
Auto Download Personal Phonebook	This used to auto download personal phonebook from server
Booting Checked	This used to checked the auto provision when phone booting
Auto Provision Freqency	This used to set the time interval for auto provision
Auto Provision Time	This used to the specific time for auto provision
AES Enable	You can enable/disable AES encrypt for auto provision
AES Key	The key of the AES
Auto Provision Now	This used to do auto provision immediately

FTP Upgrade

You can upgrade the software,kernel and configure file for the phone use ftp.

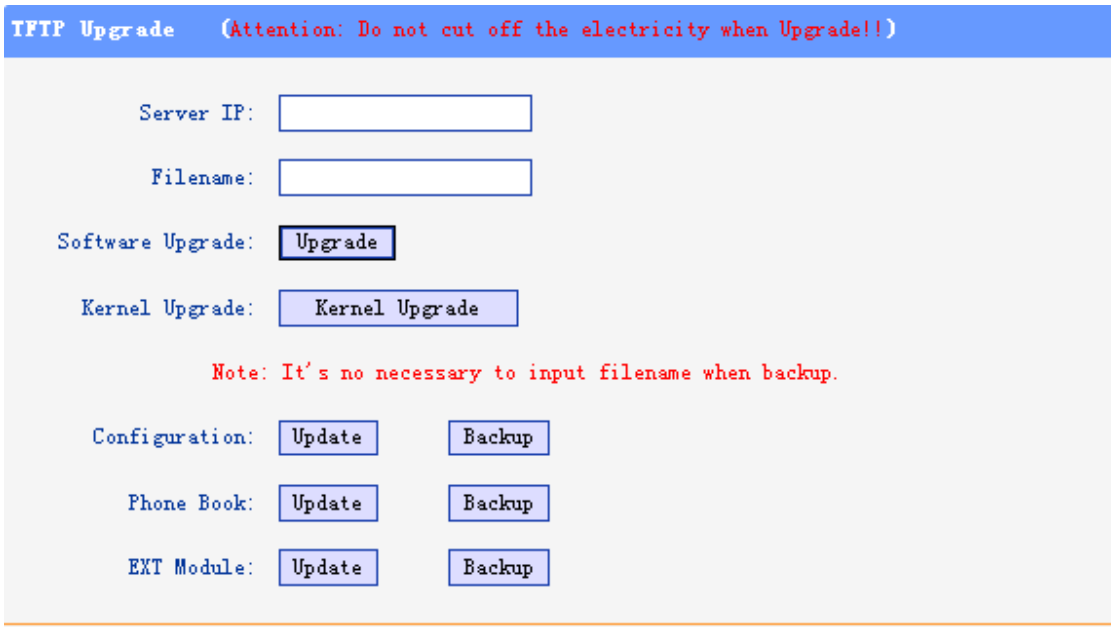


When use ftp upgrade, you can set several parameters as follow:

FTP Upgrade	
Server IP	The ip address of the ftp server
Filename	The name of the file want to download from ftp server
Username	The username provide by ftp server
Password	The password provide by ftp server
Software Upgrade	Used to upgrade the software of the phone
Kernel Upgrade	Used to upgrade the kernel of the phone
Configuration	You can used update/backup to update/backup the configure file of the phone
Phone Book	You can used update/backup to update/backup the phonebook of the phone
EXT Module	You can used update/backup to update/backup the expansion of the phone

TFTP Upgrade

You can upgrade the software,kernel and configure file for the phone use tftp.



When use tftp upgrade, you can set several parameters as follow:

TFTP Upgrade	
Server IP	The ip address of the tftp server
Filename	The name of the file want to download from ftp server
Software Upgrade	Used to upgrade the software of the phone
Kernel Upgrade	Used to upgrade the kernel of the phone
Configuration	You can used update/backup to update/backup the configure file of the phone
Phone Book	You can used update/backup to update/backup the phonebook of the phone
EXT Module	You can used update/backup to update/backup the expansion of the phone

HTTP Upgrade

You can upgrade the software,kernel and configure file for the phone use http.

When use http upgrade, you can set several parameters as follow:

HTTP Upgrade	
Select a File	Browse the software/kernel/config file you want to upgrade from http
Software Upgrade	Used to upgrade the software of the phone
Kernel Upgrade	Used to upgrade the kernel of the phone
Configuration	You can used upload/download to upload/download the configure file of the phone
Phone Book	You can used upload/download to upload/download the phonebook of the phone
EXT Module	You can used update/backup to update/backup the expansion of the phone

Reboot

You can use reboot option to reboot the phone.

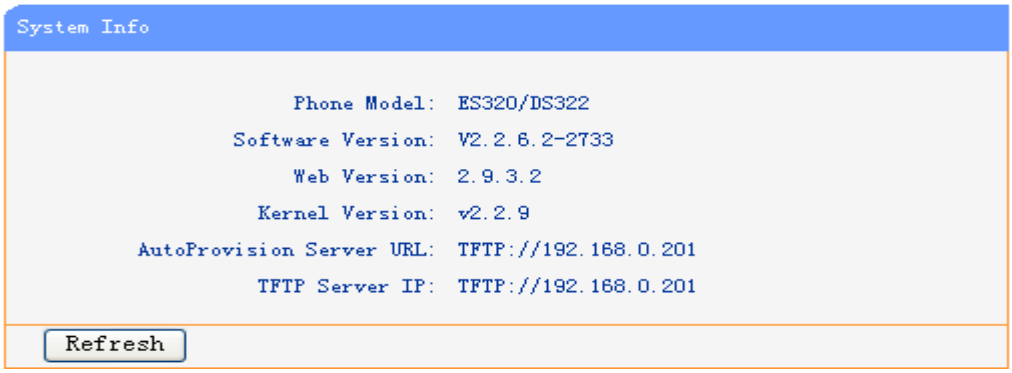
Reboot
Attention: When click this button this equipment will be reboot, web service will be interred, please connect again.
Reboot

When you press 'Reboot',the phone will reboot.

Phone Status

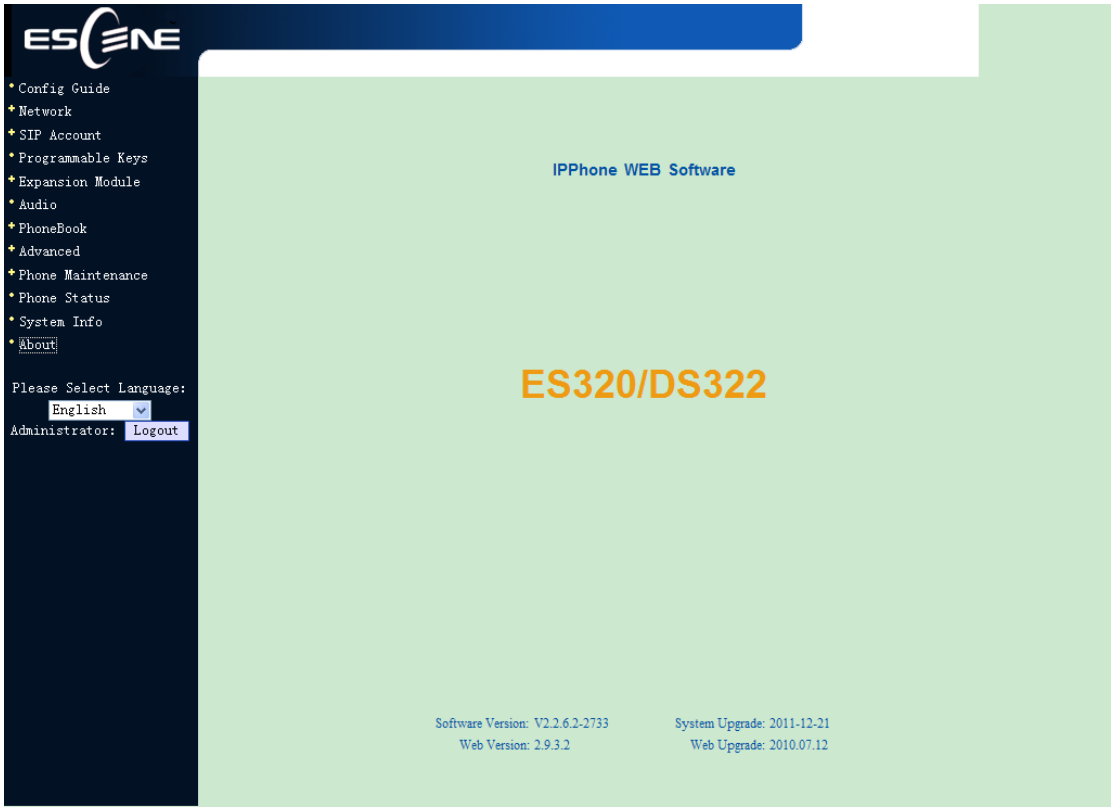
You can see the currently status of the phone when use Phone Status option.

System info



About

You can see the phone model when used About option.



Attention:
On this interface ,you can see the software and kernel which we used for test and this user_manual is written base on this software and kernel.
This software version is V2.2.6.2-2733
This kernel version is v2.2.9

Appendix：

Auto Provision

Pre-configuration on TFTP/HTTP/HTTPS/FTP Server

When the software or kernel auto-provision is enabled and want to run, IP Phone will check the software and kernel version at first, so we need make some pre-configuration on the provisioning server.

Auto Provision for Software:

1. Create a notepad file named"**F000X00.cfg**"(the "X" is decided by the model of the IP phone you are using, for example, if the model is ES620, the file name is "F000600.cfg");
   **Named rule of the file:*
   F00600.cfg: for ES620, ES610 and DS622;
   F00400.cfg: for ES410 and DS412;
   F00300.cfg: for ES310 and DS312;
   F00200.cfg: for ES210 and DS212.
2. Open the notepad file "F000X00.cfg" and write the new software name in it, for example,
   S_ES6xx_version2.0.4.6: for ES620, ES610 and DS622;
   S_ES410_version2.0.4.6: for ES410 and DS412;
   S_ES310_version2.0.4.6: for ES310 and DS312;
   S_ES210_version2.0.4.6: for ES210 and DS212
   Write down the new version you want to upgrade and save it on your provisioning server.
   **Please note that if the version is not older than (and same as) the one on your phone, auto-provision of your software would be not available.*
3. After it, upload the new software to the TFTP/HTTP/HTTPS/FTP provisioning server and complete the pre-configuration steps.

Auto Provision for Kernel:

1. Create a notepad file named"**K000X00.cfg**"(the "X" is decided by the

model of the IP phone you are using, for example, if the model is ES620, the file name is "K000600.cfg");

**Named rule of the file:*

K00600.cfg: for ES620, ES610 and DS622;
K00400.cfg: for ES410 and DS412;
K00300.cfg: for ES310 and DS312;
K00200.cfg: for ES210 and DS212.

2. Open the notepad file "K000X00.cfg" and write the new kernel name in it, for example,

K_uImage_600.bin_version2.1.6: for ES620, ES610 and DS622;
K_uImage_400.bin_version2.1.6: for ES410 and DS412;
K_uImage_300.bin_version2.1.6: for ES310 and DS312;
K_uImage_200.bin_version2.1.6: for ES210 and DS212

Write the new version you want to upgrade and save it on your provisioning server.

**Please note that if the version is not older than (and same as) the one on your phone, auto-provision of your kernel would be not available.*

3. After it, upload the new kernel to the TFTP/HTTP/HTTPS/FTP provisioning server and complete the pre-configuration steps.

Configuration files on TFTP/HTTP/HTTPS/FTP Server

- **Name of configuration file:**

The configuration file on the provisioning server is named as the MAC address of IP phone itself. Escene's IP phones support two different configuration files for auto-provision:

1. Normal Configuration file:

Normal Configuration file is the configuration file of your Escene IP phone. You can download it from your phone (You can see the following chapter to see how to download a configuration file from Escene IP hone) and modify by yourself. If the IP phone's MAC address is 00:11:22:33:44:55, the normal configuration file of it should be ***001122334455.xml***.

2. Broadsoft Configuration files:

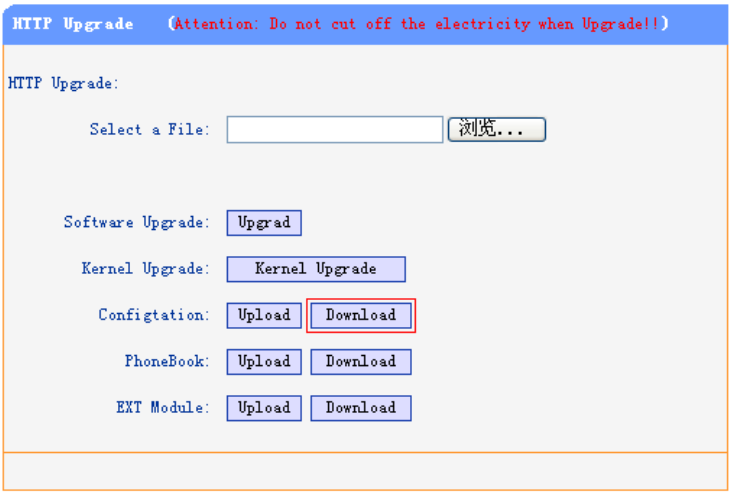
Broadsoft Configuration files support the format of Broadsoft IP-PBX. However, you can use them for provisioning. There are two files should be set on your provisioning server, they are also named by the MAC address of your phone

1) ***001122334455.cfg***: a configuration file for system settings, for example, network, audio and so on.
2) ***001122334455.txt***: a configuration file for SIP accounts.

- **Download a configuration file from your phone:**

You can download a configuration file from your phone by HTTP as follow:

1. Open the web page of your IP phone, click "Phone Maintenance">"HTTP Upgrade";
2. Then click "Download" of Configuration:



3. If you want to use this file to auto-provision, you just need to modify it by yourself and rename it to the MAC address of your IP Phone with .xml suffix.

Extern.xml file on TFTP/HTTP/HTTPS/FTP Server

The Extern.xml includes the settings of programmable buttons on the phone and all Expansion Modules. All the phones can download the settings from a same file and they will have the same settings (for example, Speed-dial, BLF and so on).

You can't rename the file on the provisioning server. The file name is fixed to **Account1_Extern.xml.(Account1 is the first account you register)*

Phonebook on TFTP/HTTP/HTTPS/FTP Server

Escene IP phone supports Enterprise Phonebook and Personal Phonebook.

- **Enterprise Phonebook:**

Enterprise Phonebook is used for all staffs in your office. All phones will download a common phonebook for all staffs. The file's name must be ***Enterprise_Phonebook.xml*** on your provisioning server and you can not rename it.

- **Personal Phonebook:**

Personal Phonebook is individual for each IP phone. The file on your provisioning server is named by the first account of your IP phone. If the IP phone's first account is 1287, the Personal Phonebook of this phone is ***1287_Phonebook.xml***.

Automatic Provisioning using DHCP Option 66

The following steps will descript auto-provision by TFTP. You also can use HTTP and FTP for auto-provision with our phones.

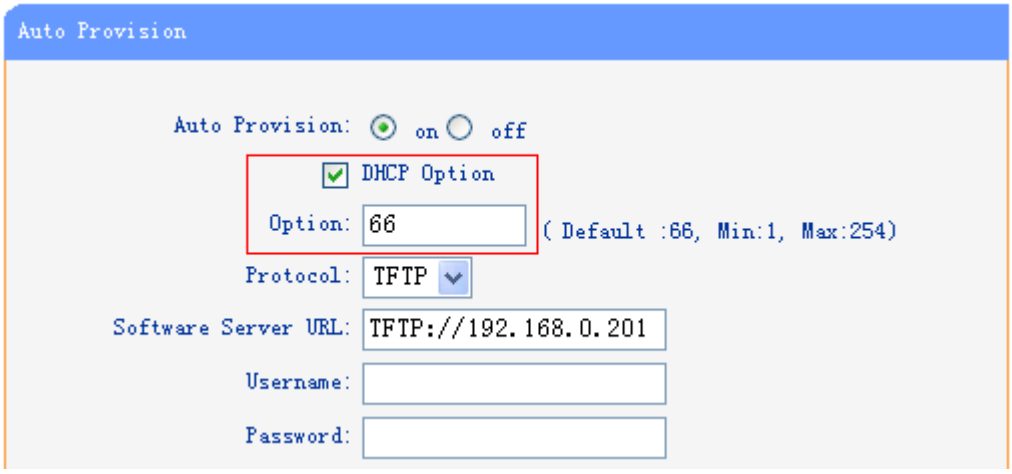
DHCP Server: (Microsoft Windows 2003 server)

1. Start up the "DHCP Management Console";
2. Expand the DHCP scope which will contain the phones
3. Right-click on the "Scope Options" node
4. Select "Configure Options"
5. In the "General" tab, scroll down the list of options and identify the option labeled "066 Boot Server Host Name"
6. Enable the "066 Boot Server Host Name" and enter the string value according to the examples discussed previously

   string value:
   192.168.0.201(TFTP Server IP Address);
7. Click the "OK" button

IP Phone:

1. Input the IP Phone's IP Address in browser;
2. Enter user and password with "root" then open the web page;
3. Click "Phone Maintenance" and select "Auto Provision";
4. Select like as follows:



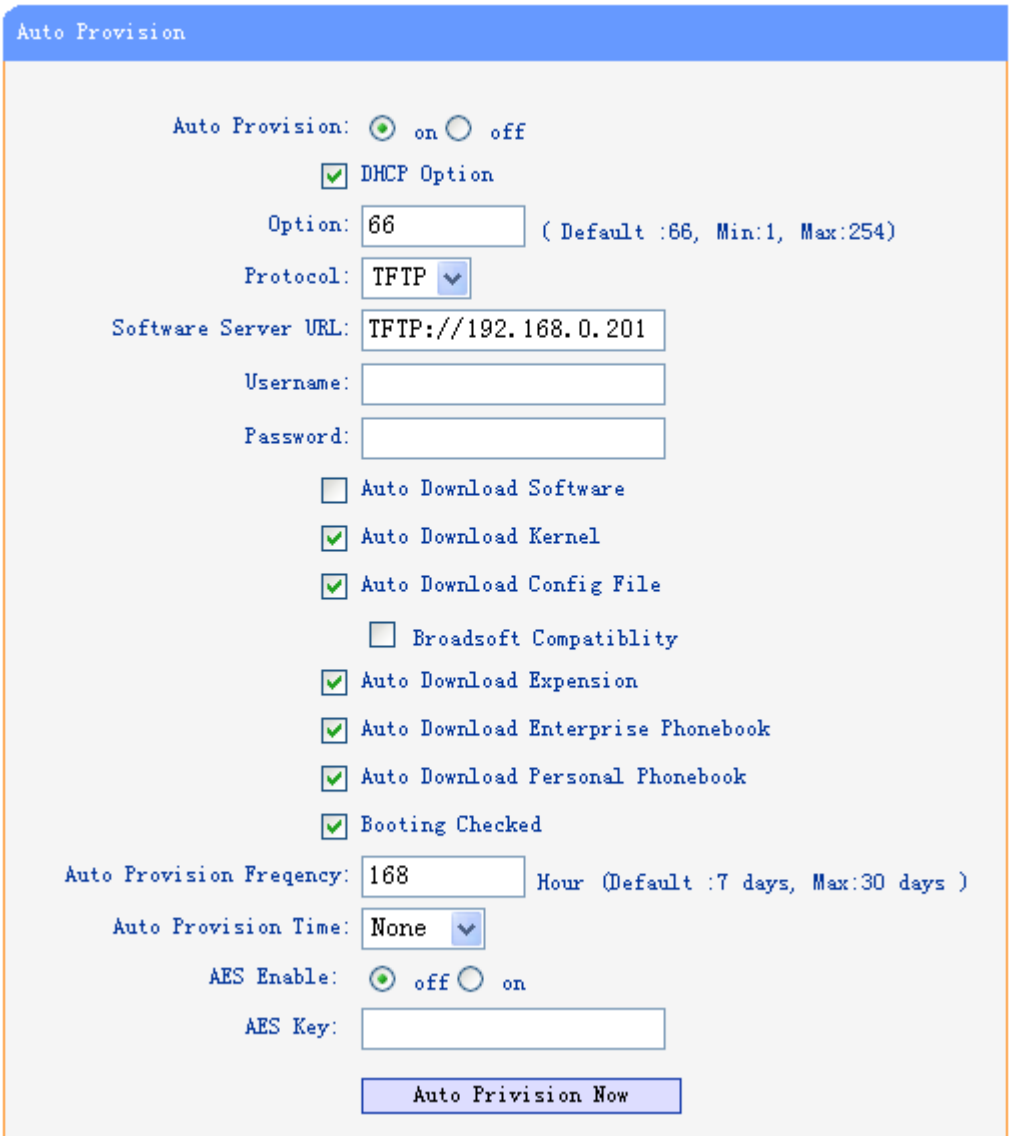
5. Click "Submit" to save it.

Auto-Provision via fixable TFTP/HTTP/HTTPS/FTP Server

IP Phone:

1. Input the IP Phone's IP Address in browser;

2. Enter user and password with "root" then open the web page;
3. Click "Phone Maintenance" and select "Auto Provision";
4. select like as follows:



It supports three protocols in Auto-Provision:TFTP,HTTP and FTP.
The format with provisioning server URL is:

TFTP:

TFTP://192.168.0.201(192.168.0.201 is the default Server IP address)

HTTP:

HTTP://192.168.0.201

HTTPS:

HTTPS://192.168.0.201

FTP:

FTP://192.168.0.201

Username: the user to login FTP/HTTP/HTTPS server

Password: the password of the user using to login FTP/HTTP/HTTPS server

**Username and password are available in FTP/HTTP/HTTPS only (unavailable in TFTP).*

Auto Download Software:
Download software from server and upgrade it automatically.
Auto Download Kernel:
Download kernel from server and upgrade it automatically.

Auto Download Config File:
Download configuration file from server and update it automatically.
BroadsoftCompatibility:
If you select this function, you need to put two configuration files (with Broadsoft format) on the provisioning server. Otherwise, you can download the configuration file from your phone via HTTP (regarding the steps, you can refer to *"Download a configuration file from your phone"* in this document.), modify it and upload it to the server for auto-provision.
Auto Download Expansion:
Download configuration file of the Programmable buttons on your phone or Expansion Modules automatically.
Auto Download Enterprise Phonebook:
Download Enterprise Phonebook from server and update it automatically.
Auto Download Personal Phonebook:
Download Personal Phonebook from server and update it automatically.
Booting Checked:
Check all items you had selected and upgrade/update them when the phone boot
Auto Provision Frequency:
The auto provision Frequency which you want.
Auto Provision Time:
The time you want to execute auto-provision.

Examples of Auto Provision Frequency and Time
1) When you set the **Auto Provision Frequency** and disable**Auto Provision Time** (set to None), the Auto Provision function will work after the **AutoProvision Frequency**;
2) When you set both **Auto Provision Frequency** and **Auto Provision Time**, for example:
You set the **AutoProvision Frequency** to 24 hours, and the **Auto Provision Time** to 2:00 at 8:00 today (1, Jan), it will pass 24 hours at first and work at the nearest 2:00, it means that the Auto Provision function will work at 2:00 on the day after tomorrow (3, Jan).
Therefore, if you want this function work at 23:00 tonight and it is 8:00 now, you need to set the **Auto Provision Frequency** to 0 hours and the **Auto Provision Time** to 23:00.

AES Encryption:

AES encryption is used for all the setting files of your phone (include configuration file, Expansion file, Enterprise/Personal Phonebook etc. You just need to enable the AES Encryption function and input the AES Key matching the one on your server on.

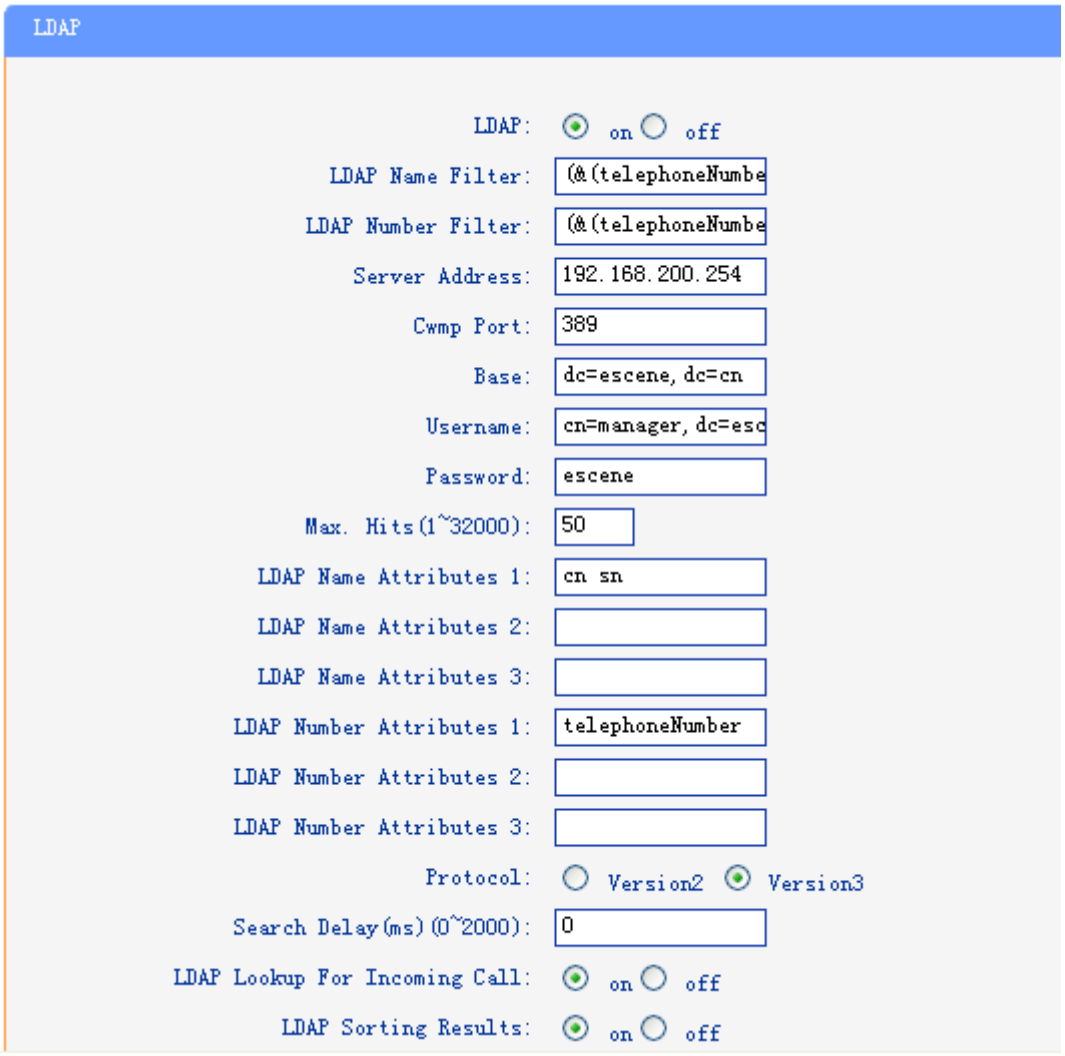
1. Overview

LDAP stands for Lightweight Directory Access Protocol which is a client-server protocol for accessing a directory service. LDAP lets you locate organizations, individuals, and other resources such as files and devices in a network, whether on the Internet or on a corporate intranet, and whether or not you know the domain name, IP address, or geographic whereabouts.

An LDAP directory can be distributed among many servers on a network, then replicated and synchronized regularly.

2. Configuration

Please note that LDAP Phonebook support on ES620\ES410\ES330\ES320\ES310\ES210, the version must be V2.2.3.1-2210 and higher, then access to the web UI¢ PhoneBook¢ LDAP page, you can find the configured option is like following picture.



We introduce each parameter attributes in following section.

3. Attributes

3.1Common Attributes

Abbrevation	Name	Description
cn	commonName	Full name of the user.
company	company	Company or organization name
gn	givenName	Firstname also called Christian name
homePhone	homeTelephoneNumber	Home Phone number
mobile	mobileTelephoneNumber	Mobile or cellular phone number
o	organizationName	Organization name or even organizational name

ou	organizationalUnitNam e	Usually department or any sub entity of larger entity
pager	pagerTelephoneNumbe r	Pager telephone number
sn	surname	Surname,last name or family name
-	telephoneNumber	Office phone number

3.2Attributes on Escene Configured Page

3.2.1 LDAP Name Filter

Description: LDAP name filter is the search criteria for name look ups. The format of the search filter is compliant to

the standard string representations of LDAP search filters (RFC 2254). The name prefix for search entered by the user

is represented by the "%" symbol in the filter.

Valid Values: Standard LDAP filters e.g. (&(sn=%)(telephoneNumber=%s))

Default Value: <blank>

Examples:

- (&(telephoneNumber=%s)(sn=%))

  Returns all LDAP records which have the "telephoneNumber" field set and the "sn" field starts with the entered prefix.

- (|(cn=%s)(sn=%s))

  Returns all LDAP records which have the "cn" or "sn" field starting with the entered prefix.

- (!(cn=%s))

  Returns all LDAP records which "do not" have the "cn" field starting with the entered prefix.

3.2.2 LDAP Number Filter

Description: LDAP number filter is the search criteria for number look ups. The format of the search filter is compliant to the standard string representations of LDAP search filters (RFC 2254). The number prefix for search entered by the user is represented by the "%" symbol in the filter.

Valid Values: Standard LDAP filters e.g.
(|(telephoneNumber=%s)(Mobile=%s)(ipPhone=%s))

Default Value: <blank>

Examples:

- (|(telephoneNumber=%s)(Mobile=%s)(ipPhone=%s))

Returns all LDAP records which have the "telephoneNumber" or "Mobile" or "ipPhone"field starting with the entered prefix.

- (&(telephoneNumber=%s)(sn=*))

Returns all LDAP records which have the "sn" field set and the "telephoneNumber" field starts with the entered prefix.

3.2.3 Server Address

Description: This setting refers to the DNS name or IP address of the LDAP server.

Default Value: 0.0.0.0

Example:

- 192.168.1.100
- ldap.company.com

3.2.4 Port

Description: This setting specifies the LDAP server port.

Default Value: 389

3.2.5 Base

Description: This setting specifies the LDAP search base (the distinguished name of the search base object) which corresponds to the location in the directory from which the LDAP search is requested to begin. The search base narrows the search scope and decreases directory lookup time. If you have multiple organizational units in your directory (for example, OU=Sales in O=COMPANY and OU=Development in O=COMPANY), but the "OU=Sales" organization never uses AOL AIM, you can restrict the lookup to the OU=Development subtree only by entering providing the following search base: OU=Development, O=COMPANY. Other examples see below.

Default Value: <blank>

Examples:

- o=UNIVERSITY OF NEW ORLEANS,c=US
- o=SFU,c=CA
- dc=escene,dc=cn

3.2.6 User Name

Description: This setting specifies the bind "Username" for LDAP servers. Most LDAP servers allow anonymous binds in which case the setting can be left blank. However if the LDAP server does not allow anonymous binds, you will need to provide the Username and Password allowed

to query the LDAP server.

Default Value: <blank>

3.2.7 Password

Description: This setting specifies the bind "Password" for LDAP servers. Escene phones use "simple" authentication scheme for bind requests. This setting can be left blank in case the server allows anonymous binds. Otherwise you will need to provide the Password along with the Username in order to access the LDAP server.

Default Value: <blank>

3.2.8 Max.Hits(1~32000)

Description: This setting specifies the maximum number of search results to be returned by the LDAP server. If Max.hits is 0 or blank the LDAP server will return all search results. Please note that a very large value of the "Max. Hits" will slow down the LDAP lookup, therefore the setting should be configured according to the available bandwidth. The default value for this setting is blank.

Default Value: 50

3.2.9 LDAP Name Attributes

Description: This setting can be used to specify the "name" attributes of each record which are to be returned in the LDAP search results. This setting compresses the search results, as the server only returns the attributes which are requested by the Escene phone. The setting allows the user to configure multiple space separated name attributes. Please consult your system administrator regarding which name attributes are to be configured.

Valid Values: Space separated name attributes, see examples below.

Default Value: <blank>

Examples:

- cn sn displayName

  Requires "cn", "sn" and "displayName" fields for each LDAP record.

- givenName

  Requires "givenName" field for each LDAP record.

- vorName nachName

Requires "vorName" and "nachName" fields for each LDAP record.

3.2.10 LDAP Number Attributes

Description: This setting can be used to specify the "number" attributes of each record which are to be returned in the LDAP search results by the LDAP server. This setting compresses the search results, as the server only returns the attributes which are requested. The user can configure multiple space separated number attributes by using this setting. Please consult you system administrator regarding which number attributes are to be configured.

Valid Values: space separated number attributes e.g. telephoneNumber Mobile ipPhone Home

Default Value: <blank>

Examples:

- Mobile telephoneNumber ipPhone

  Requires "Mobile", "telephoneNumber" and "ipPhone" fields for each LDAP record.

- Home Private Office

Requires "Home", "Private" and "Office" fields for each LDAP record.

3.2.11 Protocol

Description: Protocol is the protocol version for the phone when send the bind request to the server. Please make sure your LDAP server support version 3/2 bind request.

Valid Values: version 3/version 2

Default Value: version 3

3.2.12 Search Delay(ms)(0~2000)

Description: This setting is for configuring the delay display time after search.

Valid Values: 0~2000

Default Value: 0

3.2.13 LDAP Lookup for Incoming Call

Description: This setting can be used to enable calling line identification using LDAP. When the setting is turned "Enable", the phone performs an LDAP number search for the incoming number and displays the name of the calling party accordingly.

Valid Values: <Enabled>, <Disabled>

Default Value: Disabled

3.2.14 LDAP Sorting Results

Description: This setting is for sorting the search results, if make this option "Enabled", it will arrange in the first alphabetical of the name order if return the name display; if only has the number return, it will list in numerical order. Valid Values: <Enabled>, <Disabled>

Default Value: Disabled

3.2.15 LDAP Lookup for PreDial/Dial

Description: This setting can be used to enable call out line identification using LDAP. When the setting is turned

"Enabled", the phone performs an LDAP number search for PreDial or Dial status.

Valid Values: <Enabled>, <Disabled>

Default Value: Disabled

3.3 Example for Configuration

You can use the below settings as a starting point and adjust the filter and display attributes according to your needs.

LDAP Name Filter: (&(telephoneNumber=%s)(sn=%))

LDAP Number Filter: (&(telephoneNumber=%s)(sn=*))

Server Address: 192.168.200.254 #####this setting is relate with the server configuration.

Port: 389 #####this setting is relate with the server configuration. Base: dc=Escene,dc=cn #####this setting is relate with the server configuration. User Name: cn=manager,dc=escene,dc=cn #####this setting is relate with the server

configuration.

Password: ***** #####this setting is relate with the server configuration. Max.Hits: 50

LDAP Name Attributes: cn sn displayName

LDAP Number Attributes: Mobile telephoneNumber ipPhone

Protocol: Version 3 #####this setting is relate with the server configuration.

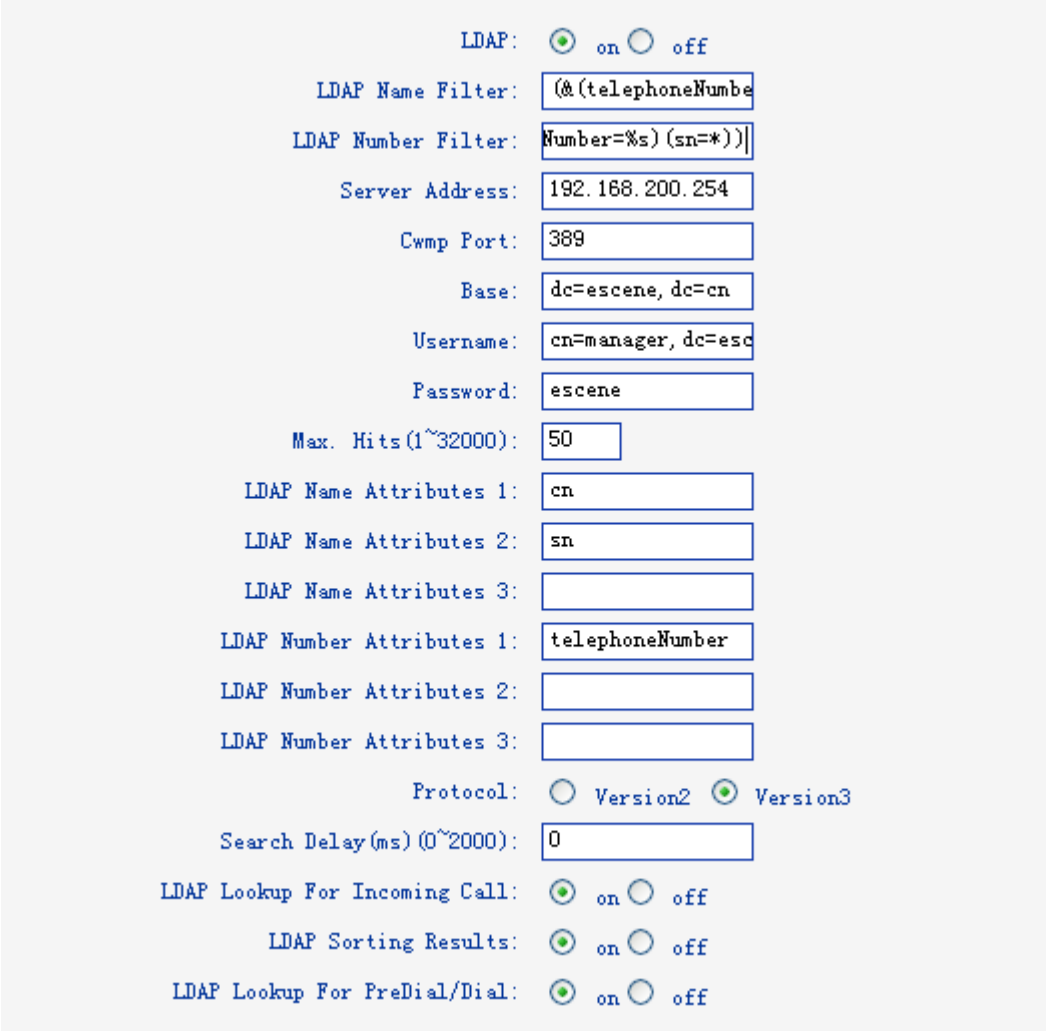
Search Delay(ms)(0~2000): 0

LDAP Lookup for Incoming Call: Enabled

LDAP Sorting Results: Enabled

LDAP Lookup for PreDial/Dial: Enabled

4. Configuration on Escene Phone

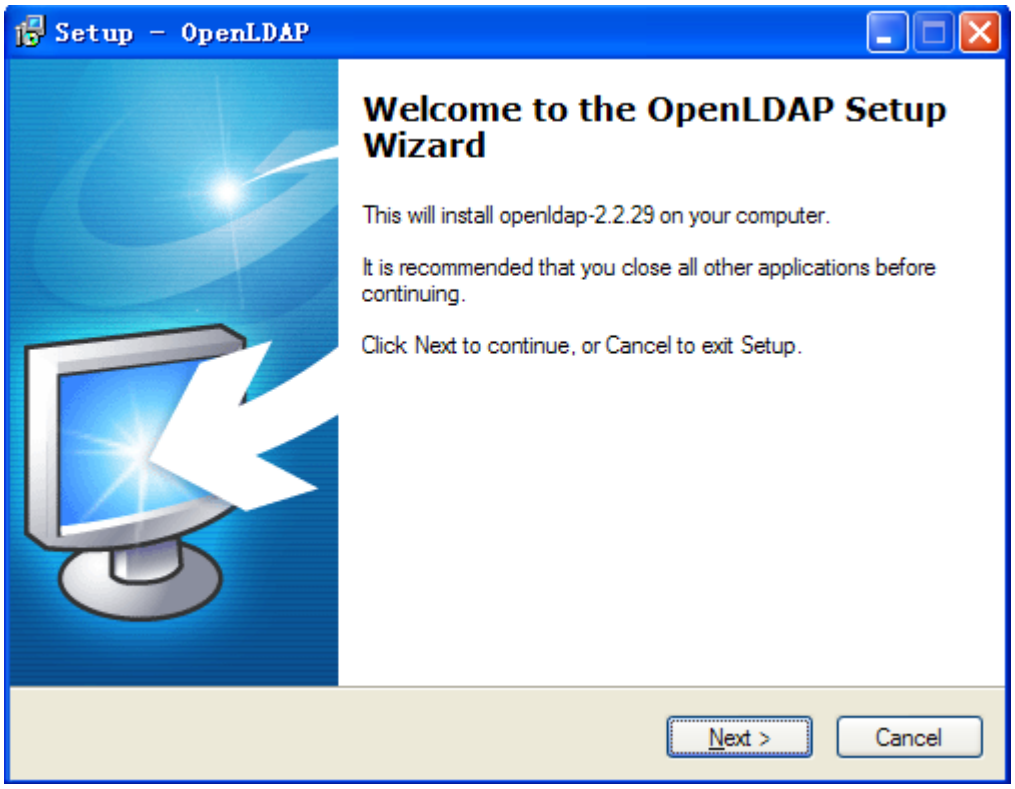


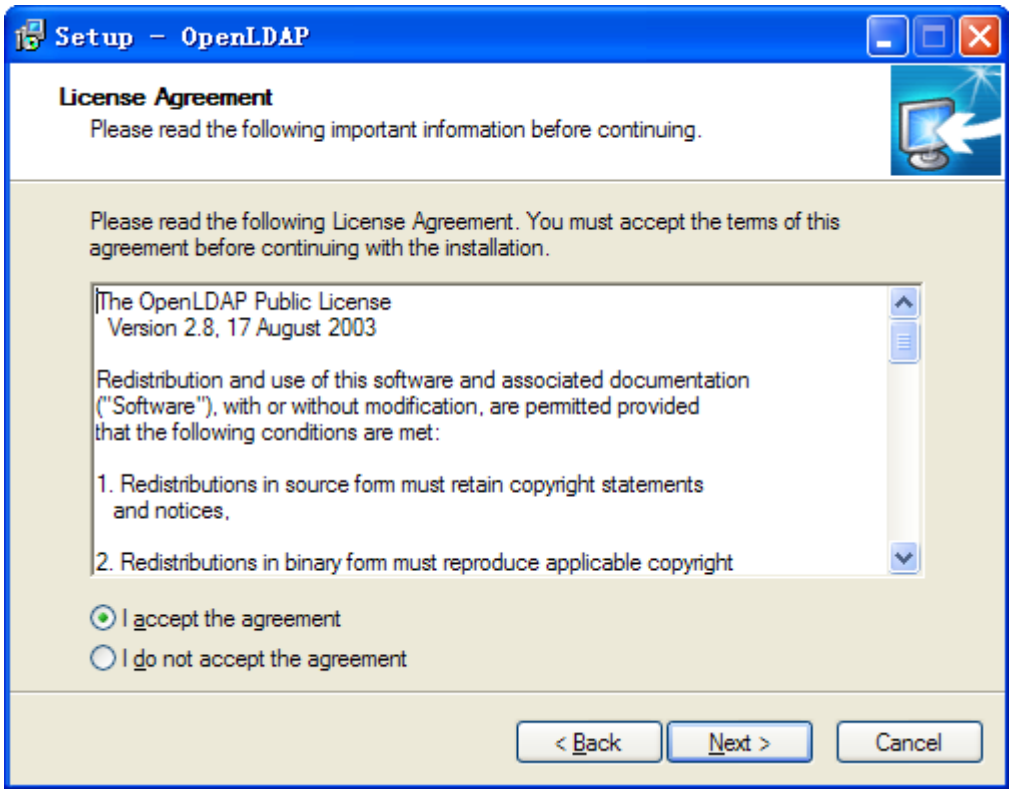
5. LDAP Server Installation

5.1Install OpenLDAP Server on Windows 2003 System

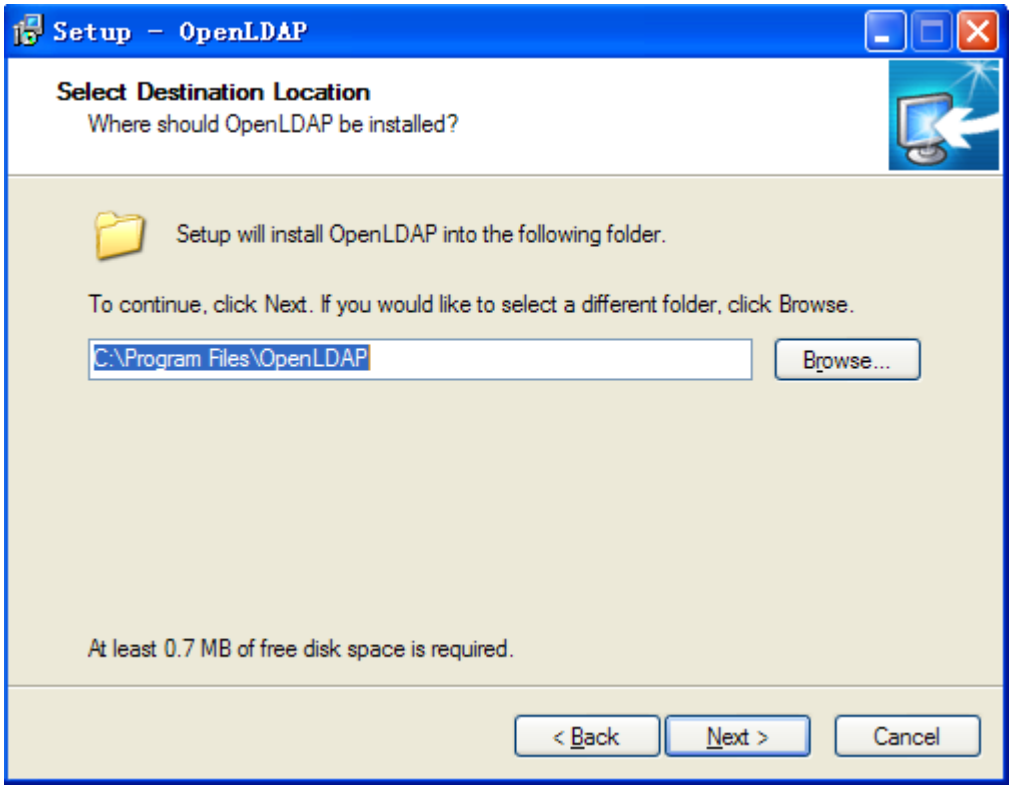
Install "openldap-2.2.29-db-4.3.29-openssl-0.9.8a-win32_Setup.exe" according to default prompt,please remember the install path for next steps.

1. Double click the install program to run the installation.

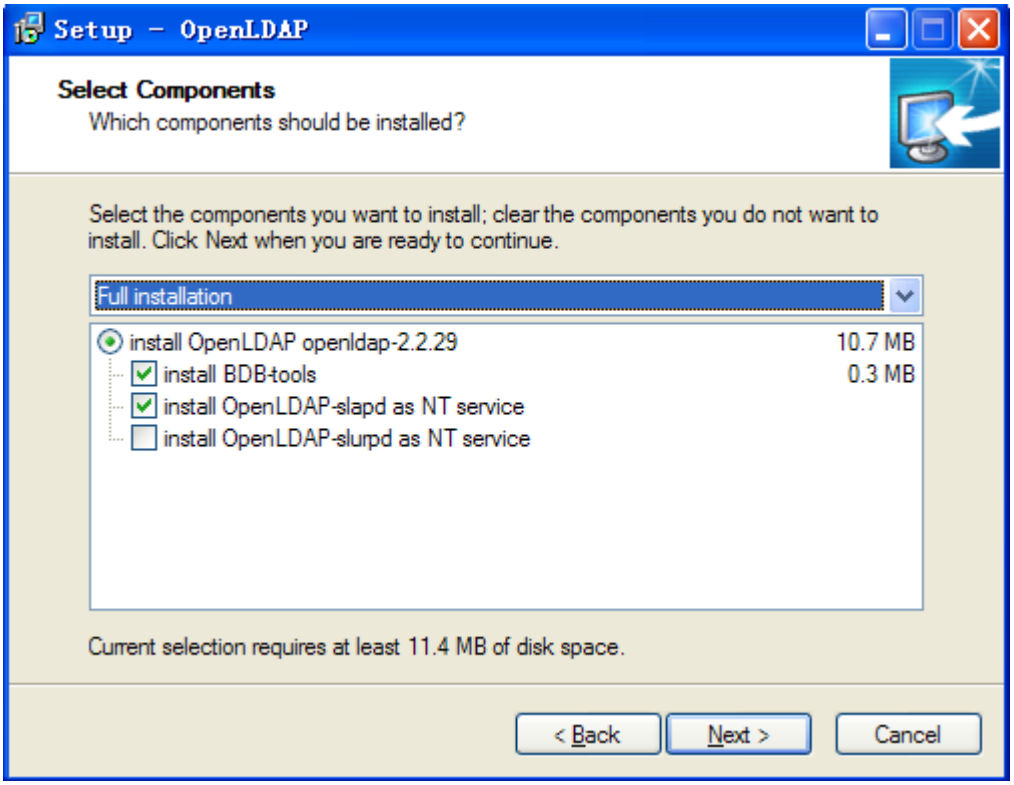

Setup - OpenLDAP
Welcome to the OpenLDAP Setup Wizard
This will install openldap-2.2.29 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

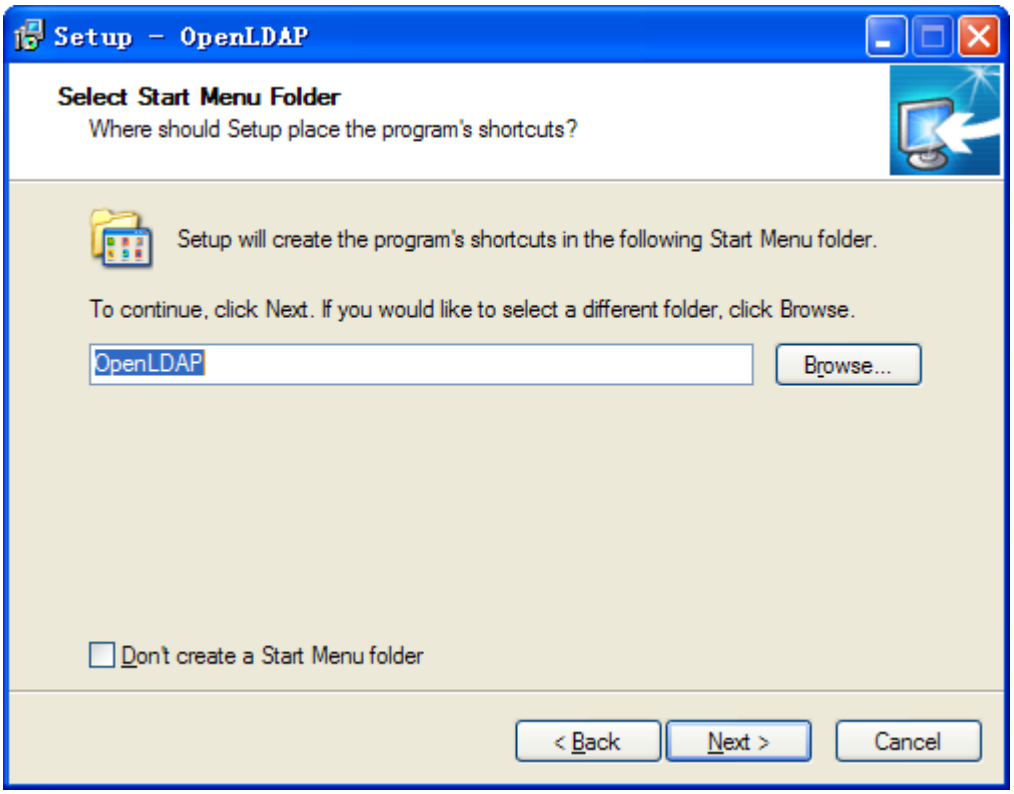

Setup - OpenLDAP
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
The OpenLDAP Public License
Version 2.8, 17 August 2003
Redistribution and use of this software and associated documentation ("Software"), with or without modification, are permitted provided that the following conditions are met:
1. Redistributions in source form must retain copyright statements and notices,
2. Redistributions in binary form must reproduce applicable copyright
I accept the agreement
I do not accept the agreement
< Back
Next >
Cancel

2. Please remember the install path. E.g. C:\Program Files\OpenLDAP.


Setup - OpenLDAP
Select Destination Location
Where should OpenLDAP be installed?
Setup will install OpenLDAP into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files\OpenLDAP
Browse...
At least 0.7 MB of free disk space is required.
< Back
Next >
Cancel

3. Choose the [Full installation] mode as picture.


Setup - OpenLDAP
Select Components
Which components should be installed?
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.
Full installation
install OpenLDAP openldap-2.2.29 10.7 MB
install BDB-tools 0.3 MB
install OpenLDAP-slapd as NT service
install OpenLDAP-slurpd as NT service
Current selection requires at least 11.4 MB of disk space.
< Back
Next >
Cancel


Setup - OpenLDAP
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
OpenLDAP
Browse...
Don't create a Start Menu folder
< Back
Next >
Cancel

Setup - OpenLDAP
Completing the OpenLDAP Setup Wizard
Setup has finished installing OpenLDAP on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
View README.txt
Finish

5.2Configure OpenLDAP Server

5.2.1 Configure slapd.conf file

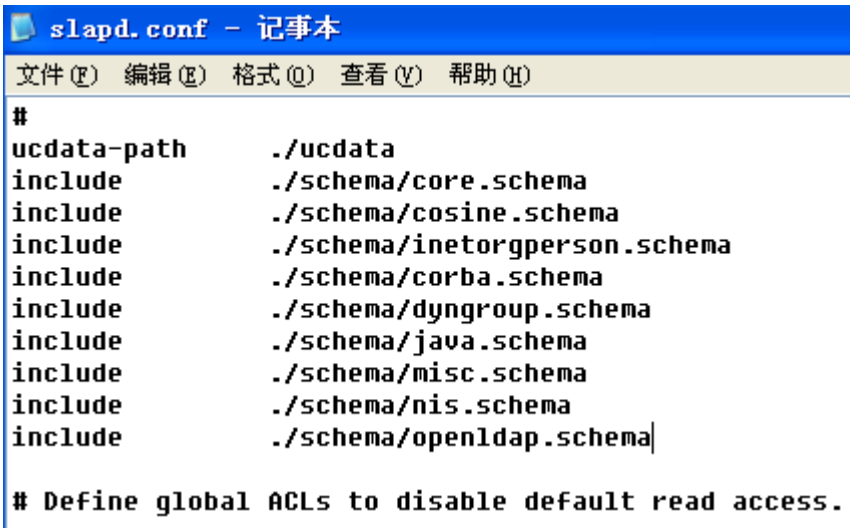
1. Add "schema" in slapd.conf file

Access to the install path (for example,C:\Program Files\OpenLDAP),open the file names slapd.conf,find the command

include ./schema/core.schema

Add the other commands like:

include ./schema/cosine.schema
include ./schema/inetorgperson.schema
include ./schema/corba.schema
include ./schema/dyngroup.schema
include ./schema/java.schema
include ./schema/misc.schema
include ./schema/nis.schema
include ./schema/openldap.schema



2. Modify the LDAP directory node

Access to the install path,open the file names slapd.conf,find the command

suffix "dc=my-domain,dc=com"
rootdn "cn=Manager,dc=my-domain,dc=com"

Please modify these two commands to following commands (please do not have any space during the quotation marks ""):

suffix "dc=escene,dc=cn"
rootdn "cn=Manager,dc=escene,dc=cn"

```
#######################################################################
# BDB database definitions
#######################################################################

database        bdb
suffix          "dc=escene,dc=cn"
rootdn          "cn=Manager,dc=escene,dc=cn"
# Cleartext passwords, especially for the rootdn, should
```

3. Modify the LDAP password

Access to the install path,open the file names slapd.conf,find the command

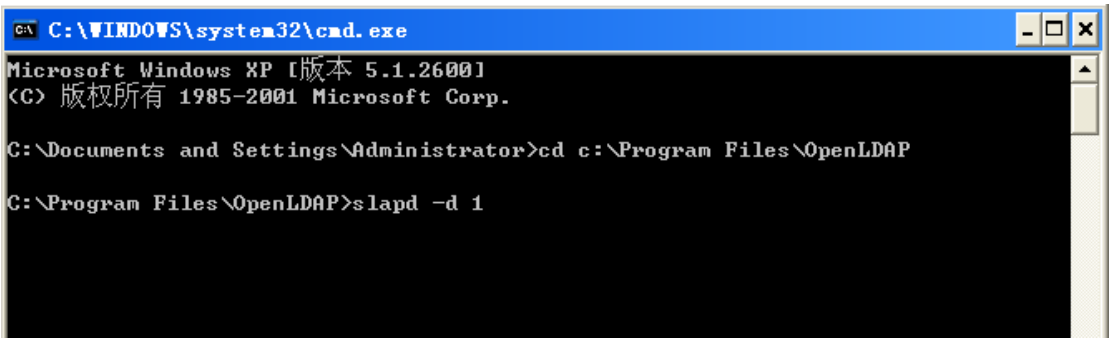
rootpw secret

Please modify it to the password you want to set.

rootpw escene

5.2.2 Run slapd server

Cmd to OpenLDAP's install path,for example,"cd c:\Program Files\OpenLDAP" , then run the command "slapd –d 1"


C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [版本 5.1.2600]
(C) 版权所有 1985-2001 Microsoft Corp.
C:\Documents and Settings\Administrator>cd c:\Program Files\OpenLDAP
C:\Program Files\OpenLDAP>slapd -d 1

If run the server successfully,you can find the command of "slapd starting"

```
slapd startup: initiated.
backend_startup: starting "dc=escene,dc=cn"
bdb_db_open: dbenv_open(./data)
slapd starting
```

NOTE:

Please do not close this window to make sure the LDAP Server keep running.

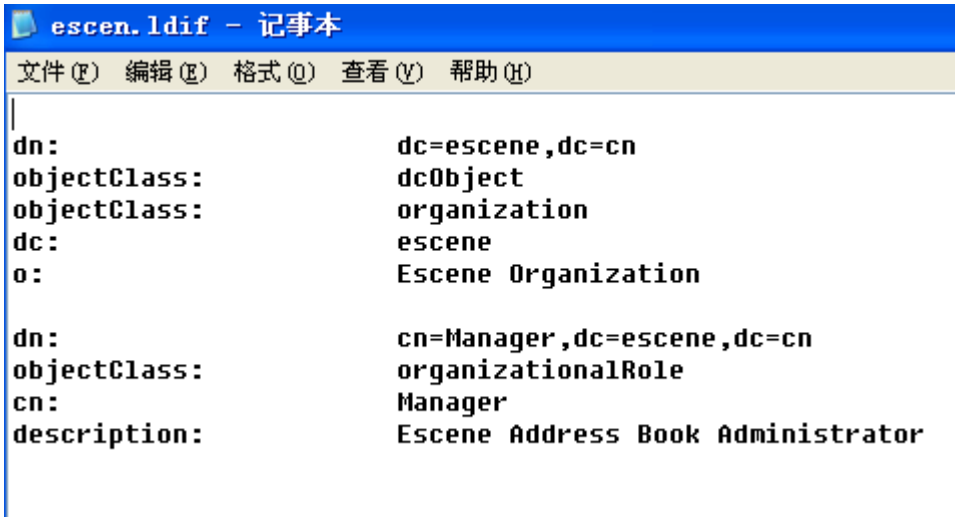
5.2.3 Add contact

Create a plain text named "escene.ldif" in install path.

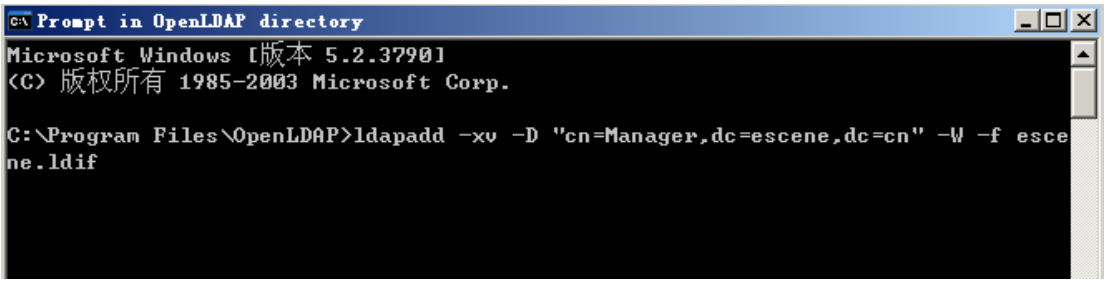
Then put the content like following:

dn: dc=escene,dc=cn

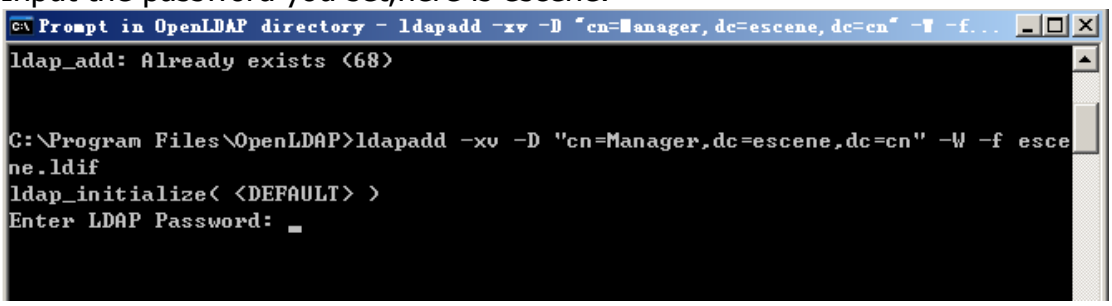
```
objectClass:          dcObject
objectClass:          organization
dc:                   escene
o:                    Escene Organization

dn:                   cn=Manager,dc=escene,dc=cn
objectClass:          organizationalRole
cn:                   Manager
description:          Escene Address Book Administrator
```

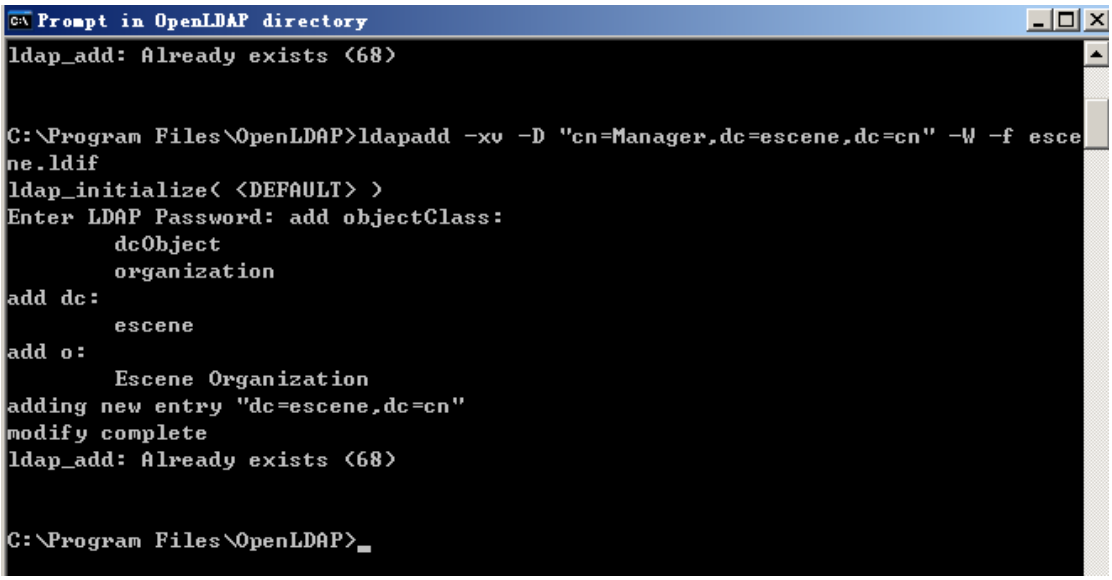


Cmd to execute command "ldapadd -xv –D "cn=Manager,dc=escene,dc=cn" –W –f escene.ldif".


Prompt in OpenLDAP directory
Microsoft Windows [版本 5.2.3790]
(C) 版权所有 1985-2003 Microsoft Corp.
C:\Program Files\OpenLDAP>ldapadd -xv -D "cn=Manager,dc=escene,dc=cn" -W -f escene.ldif

Input the password you set,here is escene.


Prompt in OpenLDAP directory - ldapadd -xv -D "cn=Manager,dc=escene,dc=cn" -W -f...
ldap_add: Already exists (68)
C:\Program Files\OpenLDAP>ldapadd -xv -D "cn=Manager,dc=escene,dc=cn" -W -f escene.ldif
ldap_initialize(<DEFAULT>)
Enter LDAP Password:



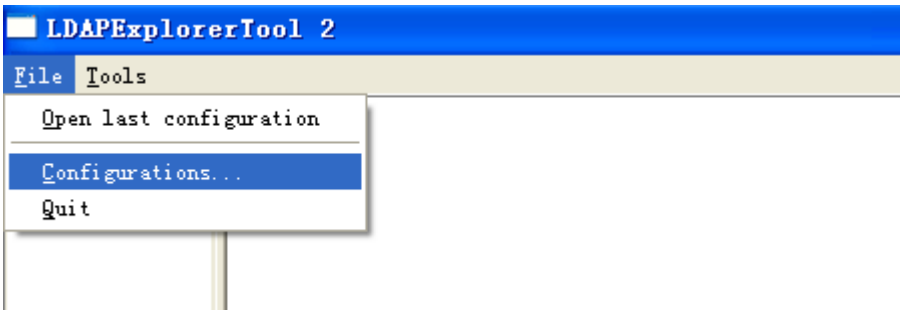
6. Install LDAP Client tool in Windows System

6.1 Install LDAPExploreTool2

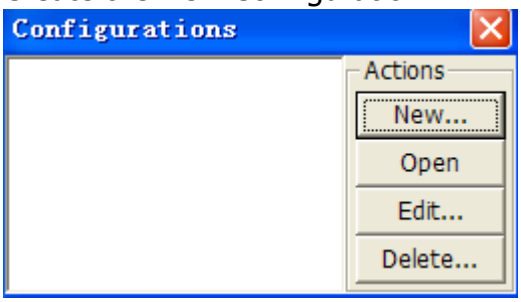
Install the LDAPExploreTool2 according to the prompt.

6.2 Create the Configurations in LDAPExploreTool2

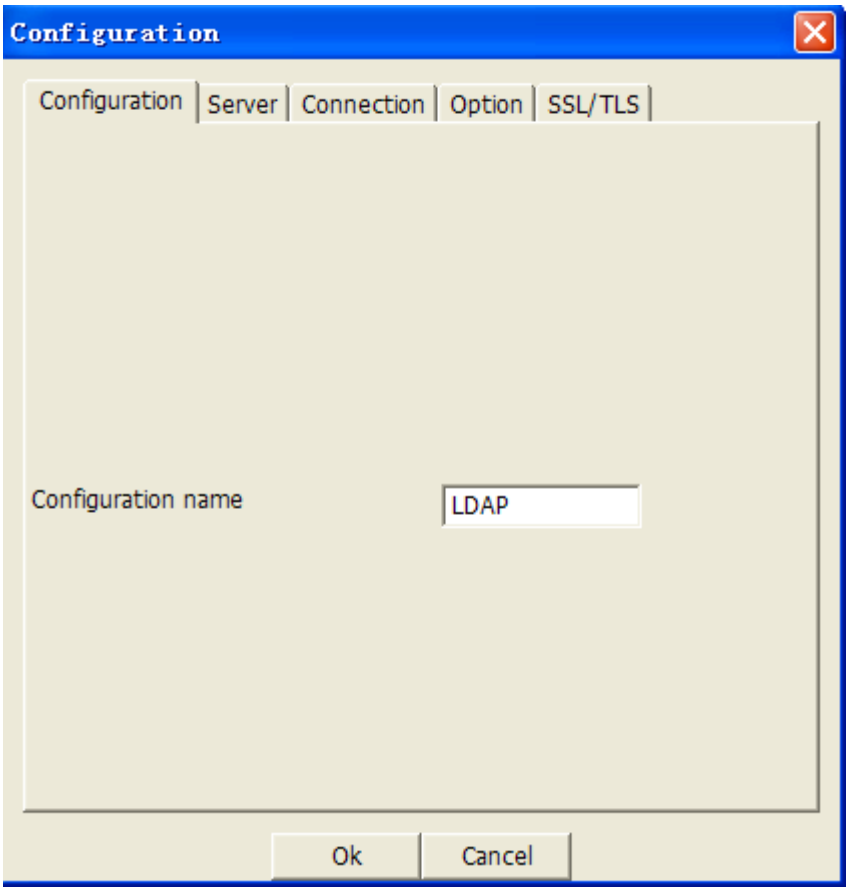
1. Run the LDAPExploreTool2,access to File→Configurations.



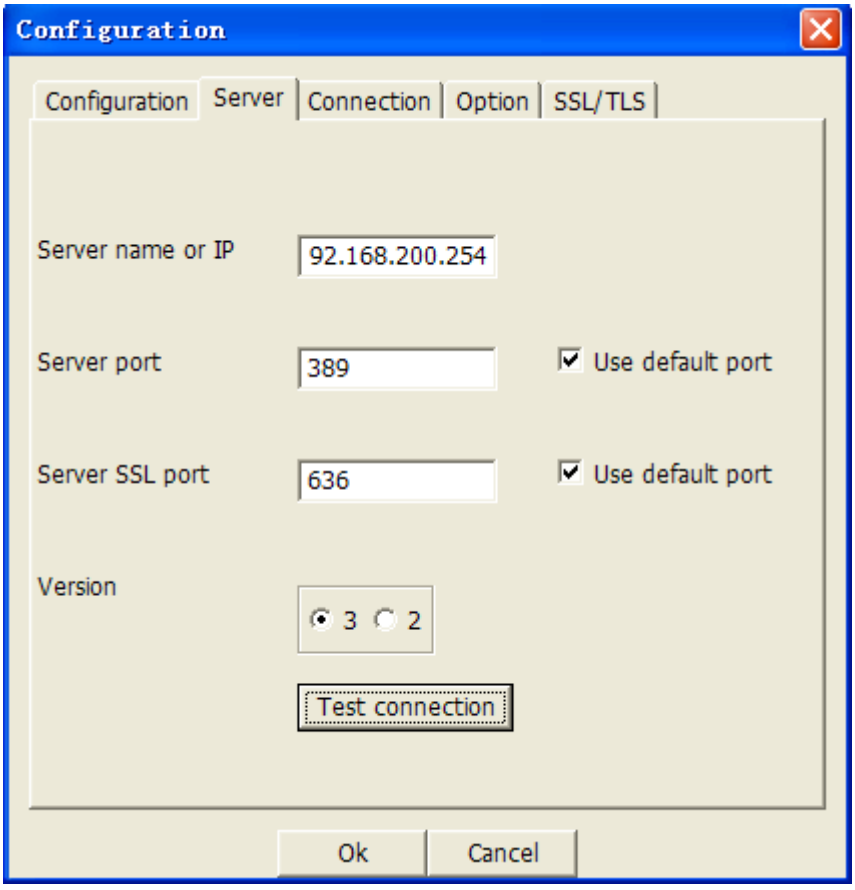
2. Create the New Configuration



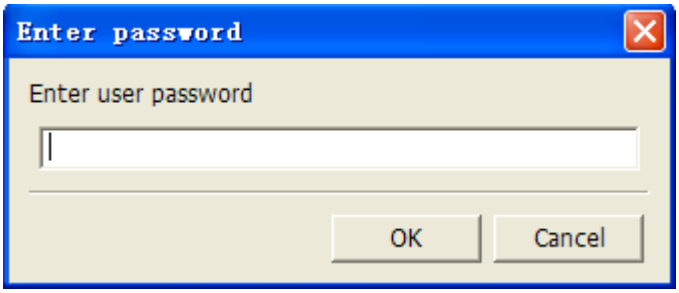
a. Fill in a name in Configuration option



b. Input the server address on Server option.



c. Press Test connection,the password is blank(no password),press ok,will display Test OK.

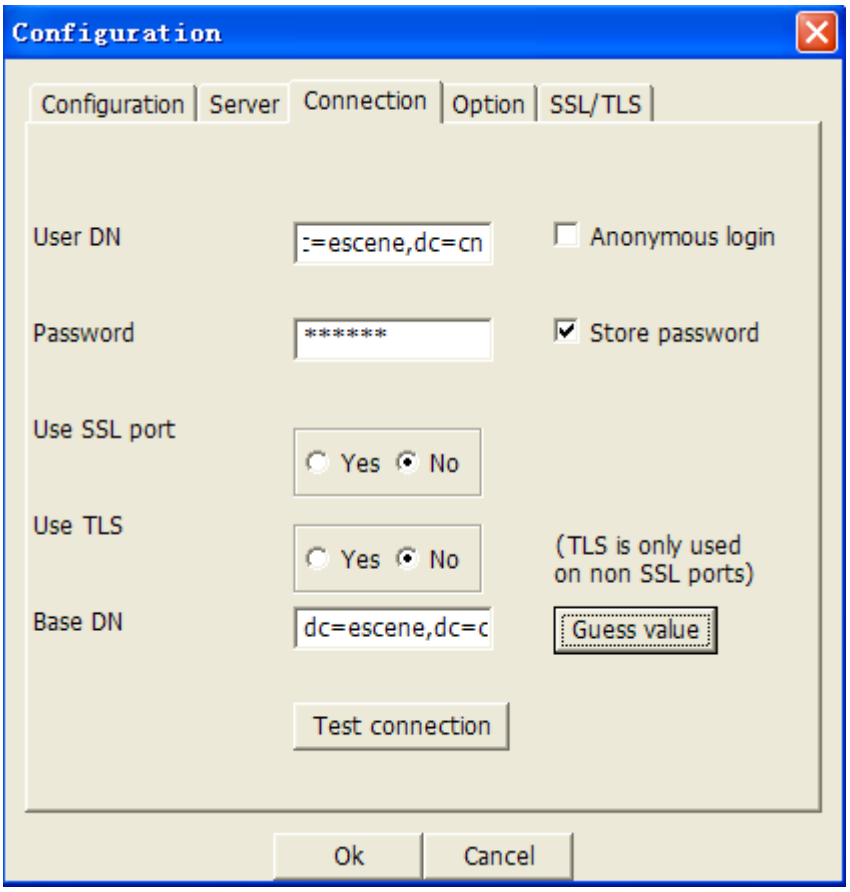


NOTE:

Server name or IP\Server port\Version settings are relate with the settings on escene phone.

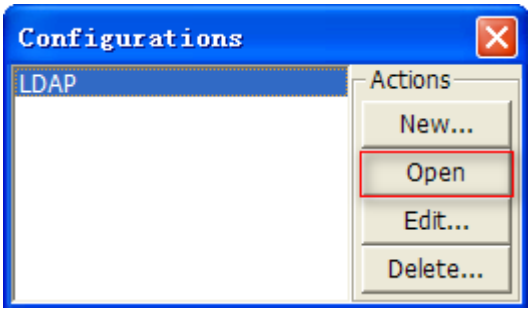
d. Configure the "cn=Manager,dc=escene,dc=cn" on User DN,and tick the Store password for protect your settings,enter the password which you configure on the server.

The Base DN will auto-configure if you press the [Guess value].



After the settings above,you can press [Test connection] to test your settings,if it prompt warning message,please re-try the steps above again,we can continue the next steps if the test is passed.

3. Choose the Action[LDAP],then press [Open] achieve the settings.

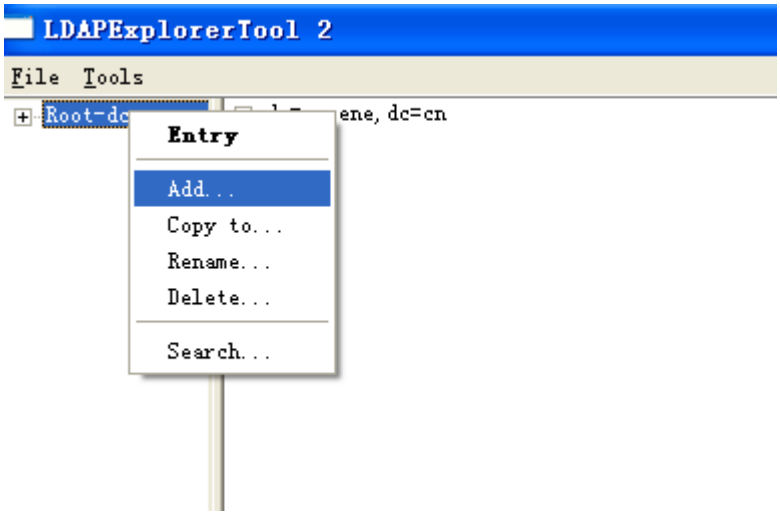


Then you can get the page like following picture. Please right click

the action to add the contacts.

6.3 Add the Entry

1.Please right click the action to add the contacts.



2.Create new entry.

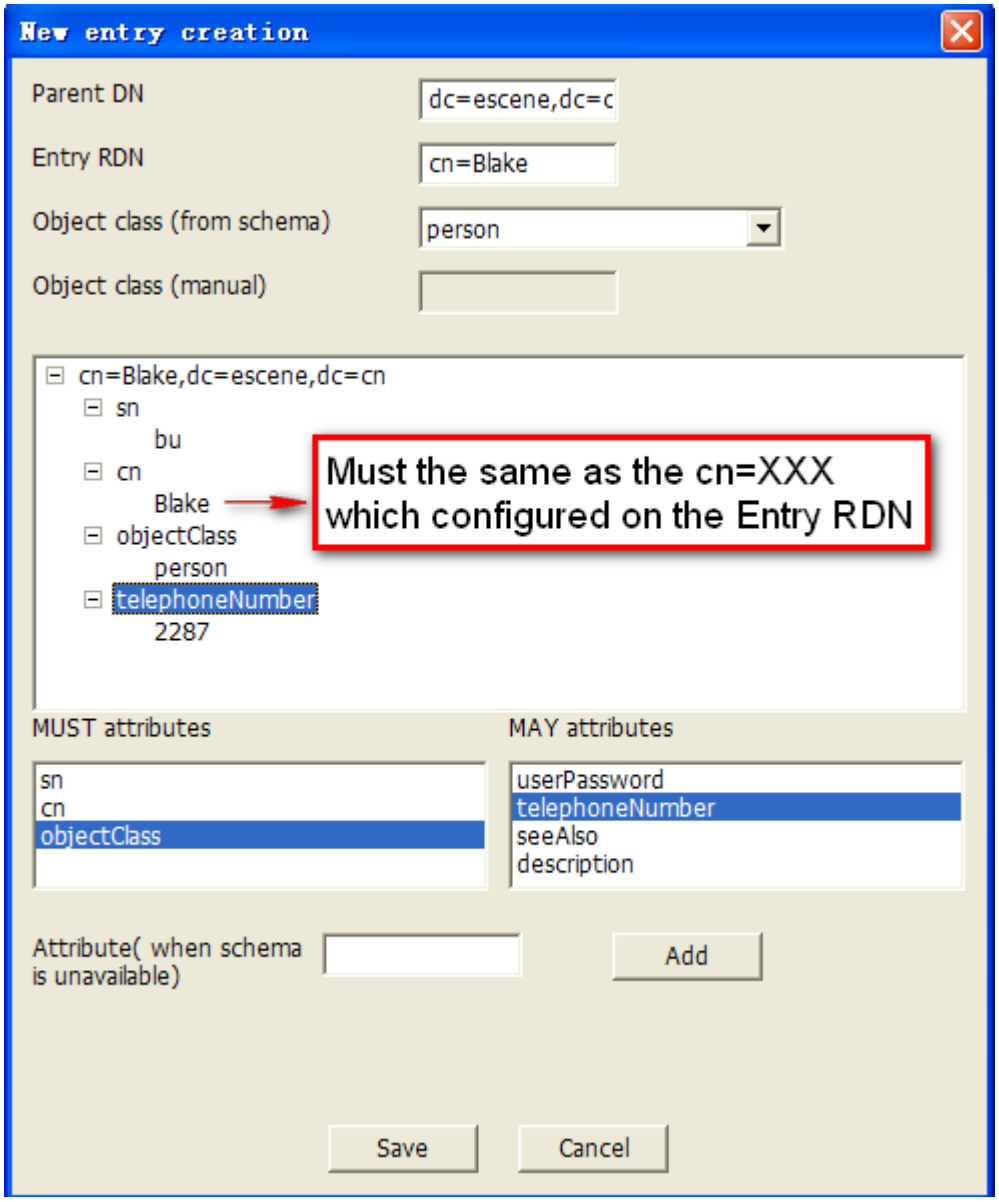
Parent DN: This setting will automatic generation according the Configuration setting.

Entry RDN: The format is cn=XXX

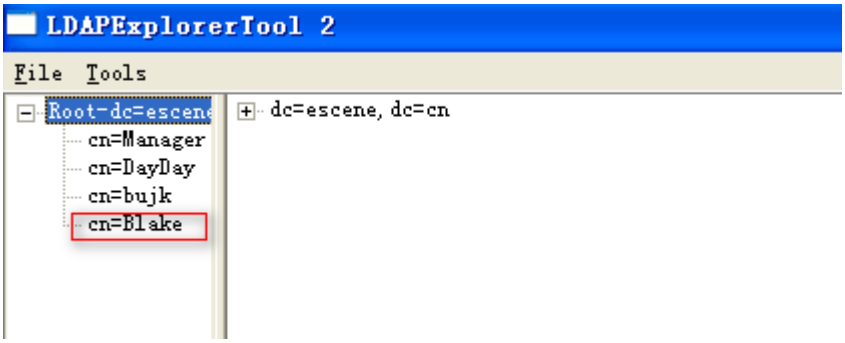
Object Class(from schema): Select the structure class which entry belongs to, each structure class has its own must attributes and may attributes. We select [Person] for example here.

Must attributes: Double click attribute to add them to the entry node. If need multi-cn, can be allow to repeat added.

May attributes: Double click attribute to add them to the entry node. If need multi-Telphonenumber, can be allow to repeat added.



Please notice the note label on the picture above.
After save the settings, you can find the new added entry at the left of the LDAP catalogue.



3.You can add more contact entries by these steps.

Escene в России

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Тех. поддержка:
E-mail: support@escene.ru